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THE

MEDICO-CHIRURGICAL REVIEW,

AND

JOURNAL

OF

PRACTICAL MEDICINE.

(American Reprint)

(*NEW SERIES.*)

VOLUME TWENTY-EIGHT,

[1st of OCTOBER, 1837, to 31st of MARCH,]

1838.

VOL. VIII. of DECENNIAL SERIES

EDITED

By JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING,

AND

HENRY JAMES JOHNSON, ESQ.

LECTURER ON ANATOMY AT THE SCHOOL OF ST. GEORGE'S HOSPITAL IN KINNERTON STREET.

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12.6.43

REPUBLISHED
BY RICHARD & GEORGE S. WOOD,
No. 261 Pearl-street.
NEW-YORK.

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OF THE
MEDICO-CHIRURGICAL REVIEW,
No. LV. JANUARY 1, 1838,
[BEING No. XV. OF A DECENNIAL SERIES.]

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THE

Medico-Chirurgical Review,

No. LV.

[NO. 15 OF A DECENNIAL SERIES.]

OCTOBER 1, 1837, TO JANUARY 1, 1838.

DISEASES OF THE RECTUM.

I. A TREATISE ON THE MALFORMATIONS, INJURIES, AND DISEASES OF THE RECTUM AND ANUS. Illustrated with Plates. By *George Bushe*, M.D., formerly Professor of Anatomy and Physiology, &c. 8vo., pp. 299. New York, 1837.

II. ON THE DISEASES OF THE RECTUM. By *James Syme*, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh. 8vo., pp. 138. Edinburgh, 1838.

THE diseases of the rectum are so frequent in all classes—so troublesome when they occur—and, from the seat of the disorder, as well as from its nature, so much an object of annoyance to the patient—that an accurate acquaintance with them is absolutely indispensable on the part of the practical surgeon.

It is an object of general remark, we may add of general regret, that the works which we possess on this particular subject are far from having obtained or merited a high character. They would appear, for the most part, to have emanated from gentlemen anxious for experience, rather than from those who are possessed of it—from gentlemen whose books were intended to become the parents of patients, instead of patients having been the parents of the books. The information which such works can give may be guessed with little difficulty. Excellent handbills, they form indifferent manuals; and the reader rises from their careful study a more accomplished advertiser, but probably not a better surgeon. The long series of books of this description have bred a species of despair, and the idea has taken root, that, beyond the treatment of fistula and piles, the surgery of the rectum is a sort of land of the Cimmerians, where quacks alone can breathe, and humbug darkens the air.

Perhaps this is an idle fancy and an injurious imputation; but facts would appear to have given some colour to it—facts would seem to shew, that when once a man plunges into the rectum, he leaves decency behind, and, in the midst of fæces, his practices grow foul and his habits nasty. "In for a penny, in for a pound," suggest itself as a natural maxim, and, being in a hole which daylight never enters, his arts are shrouded in darkness and impunity. More than one person has made a fortune by curing strictures which never existed, and passing bougies where they never were wanted. On the "blind side" of his patient in every way, he has readily persuaded him of the truth of what his own fears suggested; and after years of suspended cure, but not suspended payment, he has allowed him to escape with a rectum no better (fortunate if no worse), a constitution damaged, and a purse lightened. Bath, perhaps, may have contained such cases and such surgeons; and if the quack has been at length exposed, it is only after the work has been done—it is only after the patient has suffered, and the doctor has grown rich.

No successful attempts have yet been made to apply to the diseases of the rectum the pathological knowledge of the day; yet, no doubt, they are as susceptible as other maladies of exact observation, of scientific analysis, and of simple and appropriate treatment. It is not that new diseases are either to be discovered or described—it is not that new remedies or monstrous operations are to be invented or suggested—but it is that the diseases which exist, and the remedies which are more or less familiarly known, should be properly associated and distinguished, and that the vagueness, disputes, and mystery which now obtain should be dispelled. The application of what we know of the affections and dispositions of the tissues has not yet been properly made in this instance.

The authors of the works before us, Mr. Syme and Dr. Bushe, write from very different, we might say from opposite, quarters—Mr. Syme from Edinburgh, Dr. Bushe from New York. We shall presently see in what they disagree, and in what they coincide—what opportunities of observation they have enjoyed, and what varieties of treatment they propose.

We intend to devote more than one article to the subject of diseases of the rectum. We will take the more common affections first, and afterwards consider the unusual and the complicated. We purpose comparing on each subject the two authors, and taking for our text whichever is the more accurate or the more luminous.

The object of each author may, perhaps, be best displayed by his own words, in his own preface. Mr. Syme informs us that—

> "The diseases of the rectum are very frequent in their occurrence, and derive additional interest from the distressing symptoms which they occasion, as well as the relief of which they admit from the resources of surgical art. It may be added, that the mystery and concealment connected with their situation not only favour the deceptions of empirical practitioners, but also encourage the proceedings of wrong-headed operators, who prefer the most painful and dangerous means of treatment to those which are easy and safe
>
> On these accounts, it is desirable that this department of surgery should be thoroughly understood by the members of the profession, and that its leading principles should be placed prominently before them. The diseases of the rectum have accordingly been made the subject of many treatises expressly devoted to their consideration, and it may seem unnecessary for me to increase the number of these productions. But the progress of modern pathology and surgical practice has introduced many improvements that have not yet been fairly brought together, and explained in their application to the management of those complaints which are at present more particularly in view. I have attempted to supply this defect; and, by a plain statement of the seat, nature, symptoms, and treatment of the different affections which are met with at the extremity of the rectum, endeavoured to assist practitioners in discharging their duty to the patient and to protect patients against unprincipled or reckless practitioners."

For pretty nearly the same reasons Bushe was induced to study and to publish.

> "Many years ago," he says, "I was induced to pay particular attention to the diseases of the rectum and anus, in consequence of their frequency, and the diversity of opinion which prevailed in relation to their nature and treatment. My opportunities for investigating them have been ample, and I may safely say, that I spared neither time, trouble, nor expense, in endeavoring to arrive at just conclusions. In the compilation of my researches, I have aimed at simplicity and conciseness, at the same time that I have been careful to omit nothing of importance."—*Advert.*

Dr. Bushe goes on to lament the imperfections which he would willingly have seen removed from his pages. But ill-health prevented his giving effect to his wishes, and we regret to say that since that apology was penned, the death of Dr. Bushe has but too decisively established its sincerity.

Dr. Bushe's work is more comprehensive in its scope than Mr. Syme's. It treats in the following order of the following subjects: The Anatomy of the Rectum—Functions of the Rectum—Malformations of the Recttum and Anus—Foreign bodies in the Rectum—Laceration of the Rectum—Inflammation of the Rectum—Inflammation and Excoriation of the Anus—Inflammation of the Rectum and Anus, arising from the application of Gonorrhœal Matter—Fissure of the Anus—Neuralgia of the extremity of the Rectum—Spasmodic Contraction of the Sphincter Ani—Ulceration of the Rectum—Venereal Ulceration of the Rectum—Affections called Hemorrhoidal—Enlargement of the Hemorrhoidal Veins—Prolapsus of the Rectum—Relaxation of the Anus—Relaxation of the Rectum, with Invagination of the Mucous Membrane—Itching of the Anus—Excrescences about the Anus—Polypi of the Rectum—Abscess near the Anus—Fistula in Ano—Contraction of the Anus—Stricture of the Rectum—Carcinomatous Degeneration of the Rectum.

Mr. Syme's book contains six chapters. The first is on Fistula in Ano—the second on Hæmorrhoids—the third on Prolapsus Ani—the fourth on Polypus of the Rectum—the fifth on Stricture of the Rectum—the sixth on Spasmodic Stricture of the Rectum.

We do not think is necessary to say any thing at present on the anatomy or functions of the rectum. We shall therefore pass to affections not extremely rare, and of the utmost consequence—affections for which the surgeon is obliged to act with promptitude, and frequently with risk.

I. MALFORMATION OF THE RECTUM AND ANUS.

We now devote ourselves exclusively to Dr. Bushe. His arrangement of the malformations of the rectum and anus appears to be both simple and complete, at all events, for practical purposes. It is as follows:

Imperforation of the anus.	Incomplete. Complete.
Imperforation of the Rectum.	By one partition. By two partitions. By puckering and induration of its walls

- Unnatural termination of the Rectum.
  - In the bladder or urethra.
  - In the vagina.
  - In the sacral region.
  - In two extremities.
  - In a cloaca with the vagina and urethra.
- Termination of other organs in the Rectum.
  - Of the ureters.
  - Of the vagina.
- Absence of the rectum.

A. *Imperforation of the Anus.*

When *Incomplete*, this consists either in an extension of skin over the border of the sphincter ani, or in a contraction of the extremity of the rectum.

The *complete* is a much more common form of anomaly than that which has just been described, and is produced by a lamina of fibro-cellular tissue, surrounded by more or less puckering of the adjoining skin. In most cases this membrane is so thin and transparent, that when the infant strains, the meconium forces it downward, thus constituting a dusky, fluctuating tumor. However in some rare instances, it is thick, hard and unyielding, particularly at the circumference; for, in the centre, it is almost invariably so thin, that the meconium can be seen through it.

B. *Imperforation of the Rectum.*

By one partition. The situation of this, says Dr. Bushe, varies from two lines, to an inch or more above the anus. In the majority of cases, it is thin and transparent, though occasionally thick and hard. The anus is always well formed, but we are soon apprised of the nature of the case, by the retention of the meconium, by the inability of the nurse to throw up injections, and by examination with the extremity of the little finger.

By *two partitions.* Their site as well as structure differ. In a new-born child brought into the dissecting-room, the upper part of the rectum was loaded with meconium, the partitions were thin and friable, being about three-quarters of an inch apart, while the lowermost was nearly half an inch from the anus.

By puckering and induration of its walls. The only case Dr. Bushe has ever read of, occurred in Engerran. In this instance, so great was the induration and puckering, that it presented the appearance of a knob, or knot, in the intestine.

C. *Unnatural Terminations of the Rectum*

In the bladder or urethra. "When the rectum terminates in the urinary organs, it opens either obliquely between the ureters into the neck of the bladder, or into the posterior part of the urethra. It generally tapers down very considerably before it arrives at its destination; though, in some few instances, (one of which I have seen,) it terminates *cæco fine,* about half an inch above which, a narrow tube passes off anteriorly to communicate with the bladder or urethra. In either case the recto-vesical orifice is so small, that only the thinner part of the meconium can be evacuated; and thus it is, that the unfortunate infant generally dies within a week from its birth.

When the opening is vesical, the meconium and the urine are mixed; but, when urethral, a small jet of meconium generally precedes the passage of the urine.

This malformation is much more common in males, and from the length, narrowness, and curvature of the urethra, is much more dangerous than in females. It is often accompanied with imperfect development of the genito-urinary organs, especially, with imperforation of prepuce and urethra.

Though rarely, the anus sometimes exists in these cases, and permits the entrance of a probe for a few lines." 42.

In the vagina. The rectum may open into any portion of the posterior or lateral walls of the vagina. The orifice in this case is much larger than in the last malformation, which, together with the greater width and straightness of the vagina, renders it far less fatal. However, the mucous membrane becomes more or less excoriated, ulcerated, indurated and fungated, in almost every case, and abscesses form in the adjacent cellular tissue. As in the last lusus, there may be an external opening in the natural state of the anus.*

In the sacral region. A portion of the sacrum may be so deficient as to permit the extremity of the rectum to pass through it, and open externally. Dr. Bushe only knows of one case, recorded by La Faye, in the Principes de Chirurgie.

In two extremities. Dr. Bushe examined a healthy child, a few days old, in whom the rectum terminated by two extremities, one being placed a little more anterior than natural, while the other though also on the median line, was situated nearly an inch further back. This last, which was the smaller of the two, did not discharge more than one-third of the fæces, and appeared to be about an inch and a half in length.

D. *Termination of other Organs in the Rectum.*

"*Of the ureters.* Cases of this kind are exceedingly rare, and when they do occur, the ureters generally enter a short distance below the line of reflection of the peritoneum. Most commonly other malformations exist at the same time; among which, absence of the urethra in the female is the most frequent.

Of the Vagina. This is also a very uncommon anomaly. When present, the urethra generally occupies its natural situation; the menstrual discharge issues from the anus, and impregnation, nay even parturition, has been safely effected in such cases, through this orifice, which will be enlarged by more or less laceration of the perineum.

In a cloaca with the urethra, and vagina. It may so happen that the vagina, urethra and rectum, terminate together in the perineum; thus constituting a species of common vestibule or cloaca, similar to that of the annotremes, and of a great number of other animals. Saviard observed an anomaly of this kind, in a new-born infant, which, as far as I know, is the only one on record." 46.

E. *Absence of the Rectum.*

The absence of a portion is much more common than that of the entire rectum; which, in such cases terminates in a cul-de-sac at a greater or less distance from the surface.

When this intestine is completely wanting, the extremity of the colon either floats in the abdominal cavity, hangs into the pelvis, or is bound down to the top of the sacrum. In some instances a flesh, ligamentous, or fatty cord is attached to the cul-de-sac of the colon, or portion of the rectum, that may be present, and passes downwards, following the direction of the sacrum, to be blended, in many instances, with the cellular tissue behind the prostate and neck of the bladder.

---

* We may observe that in the description of these malformations we are obliged to employ the ipsissima verba of the author. Abbreviation is impossible. But we omit the biographical notes.

> "A preternatural anus may exist, and then it will occupy some situation in the face, neck, thorax, or abdomen."* 46.

When the rectum is either partially or totally wanting, the pelvis is generally contracted.

In some instances, the anus is well formed, and permits the entrance of a sound for a few lines; but generally, there is no trace of this opening, the skin being thick, hard, and, in the majority of cases, supported by muscle.

From the retention of the contents of the intestines caused by any of the malformations now mentioned, there arises great pain, as manifested by pitiful cries—abdominal enlargement with tension and shining of the integuments—discolouration and swelling of the face—inflation of the scrotum and penis—difficult and irregular respiration, caused partly by the pain resulting from the descent of the diaphragm on the inflamed intestines, and partly by the increased size of the abdomen—frequency, smallness and irregularity of the pulse—vomiting—straining to stool—hiccup—coldness with flexion of the extremities, and convulsions.

In some instances the colon bursts, and its contents are poured into the peritoneal cavity.

The majority of these malformations are fatal. When there is no outlet, death soon occurs; but in those instances in which there exists a small opening, even into another organ, this event takes place more slowly. On dissection, the intestines are found distended with gas and fæces, and are highly inflamed.

TREATMENT.

For some of the simpler of the preceding malformations, surgery offers not only alleviation but a cure; but it must be confessed that it presents but doubtful chances of recovery from the more severe. Still, in the worst cases, operations have every now and then been fortunate, and the surgeon should be acquainted with those glimmerings of success which twinkle amidst the mass of failures.

---

* "Mery mentions a case in which the colon opened at the umbilicus, the rectum being absent. (Hist. de l'Acad. des Scienc. p. 40, 1700. Littre records another, in which the ilium terminated above the pubis. (Mem. de l'Acad. des Scienc. p. 9. 1709.) Petit has described a case in which the ilium opened at the left side of the bas-ventre, and thus formed an anus. (Ibid. p. 89. 1716.) Dinmore mentions a remarkable case of an infant in whom the inferior portion of the abdomen was badly developed, while the intestine turned upwards, and opened under the border of the right scapula. A still more extraordinary case is related by Bils, in which the intestine mounted from the pelvis, through the chest, into the neck, and opened on the face by a very small orifice (Specimen Anat. Rotterdam, p. 10. 1661.

A. *Incomplete Imperforation of the Anus.*

When this is caused by a prolongation of skin, the superabundant integument ought to be divided in two or more points, and meshes of lint, or gum-elastic bougies, besmeared with simple ointment, then introduced, renewed daily, increased successively in volume, and continued for months. If, however, the extremity of the intestine be merely contracted, it will seldom be necessary to have recourse to the knife.

B. *Complete Imperforation of the Anus.*

This is very curable too. The membrane which shuts up the extremity of the intestine, should be divided crucially with a sharp-pointed straight bistoury, and the angles of the flaps thus formed, removed with a forceps and curved scissors. The means adopted for keeping the aperture patent should be the same as have been already mentioned.

When the membrane covering the extremity of the intestine is prolonged forward to the perineum, where is a small hole through which the thinner part of the fæces drain off, it should be first divided from before backwards, with a probe-pointed bistoury introduced into the foramen, and the rest of the operation then conducted as above described.

C. *Imperforation of the Rectum.*

If this is produced by a fine membrane, we may be able to break it down with the extremity of the little finger; but if it be hard, we ought, provided we feel the fluctuation of meconium, to pierce it with a trochar, and then dilate the opening thus formed, with sponge-tents, &c.

D. *Termination of the Rectum in the Bladder or Urethra.*

If there are urgent symptoms, the surgeon must dissect for the extremity of the intestine. It has been advised to open the neck of the bladder, but this only evacuates the bladder itself. If the bowels open into the urethra, and the opening is divided in passing the knife into the bladder, the operation will prove unavailing, first, because the division must be in the direction of the rectal canal, secondly, because it must be limited to a small extent, and thirdly, because in these cases, as before-mentioned, the rectum becomes narrow before it enters into the bladder or urethra.

E. *Termination of the Rectum in the Vagina or Vulva.*

In either of these cases, Dr. Bushe is of opinion, and we agree with him, that if the fæces can be easily discharged, surgical interference is improper. But there have been several opinions to the contrary. Thus, when the opening is vaginal, Vicq. d'Azyr recommended the division of the posterior wall of the vagina, below the opening, and also as much of the subjacent tissues as would admit the introduction of a canula. Martin improved upon this operation in advising the flaps of the vagina to be united in front of the canula by points of suture; and more recently Velpeau has proposed facilitating its performance, first, by introducing a blunt hook into the *cul-de-sac* of the rectum, and then rendering its extremity prominent in the perineum, secondly, by dividing the parts covering the extremity of the hook, and thirdly, by passing the tube into the opening thus formed. If we perform this operation, Velpeau's method is certainly preferable, when prac ticable; which can only be when a *cul-de-sac* exists; for the intestine tapers down very considerably in some cases before it enters. Breschet has proposed the same operation as Vicq d'Azyr, when the opening is in the *fourchette.*

F. When the rectum opens through the sacrum---when bifurcates—or, when there is a common opening for the urethra, vagina, and rectum, surgery can ofier no assistance.

G. *Partial absence of the Rectum.*—When this is the case, which cannot be told à priori, an anus ought to be made, if possible, in the natural situation. The following are Dr. Bushe's directions:

> "The little patient being held in the lap of an assistant, with the knees bent and the buttocks thrown forward, the surgeon should make an incision of about eight or ten lines, from before backwards, in the accustomed situation of the anus. If in the course of the dissection, he discovers the sphincter or the levatores ani muscles, he should separate their fibres carefully, and prosecute the dissection nearly in the axis of the body, or almost perpendicularly, cutting from before backwards, to avoid wounding the bladder; at the same time he should be careful not to get behind the rectum,—a mistake which has sometimes occurred during the dissection. The blood ought to be well sponged out, and the fore-finger of the left hand repeatedly used to seek for the rectum. If after dissecting two inches, or at most two and a half inches deep, the intestine cannot be detected, the operation ought to be abandoned; but, if the bowel be discovered by its blackness or fluctuation, either a trochar, or, what is better, a bistoury, should be forced into it, and the meconium evacuated. The opening thus formed should be maintained by tents of prepared sponge, meshes of lint, besmeared with cerate, or gum elastic tubes kept continually introduced. The operation ought to be conducted with as much despatch as is compatible with safety, for pain never fails to prostrate babes. Most surgeons who have performed such operations have been unsuccessful; thus Petit mentions three fatal cases, death having occurred within a few hours, in one from convulsions, and in another from exhaustion. However, other surgeons have succeeded; among whom we may mention, Roux-Brignoles, and Sanson.
>
> Should the little patient recover from the operation, his comfort will afterwards depend, first, upon there being a sphincter, and the opening having been made through it, and secondly, upon the proximity of the rectum to the skin. If there be no sphincter, he must be miserable indeed; and should the space between the rectum and the skin be great, he will labour under an affliction not to be endured." 53.

H. It is only *when the rectum cannot be found*, that there is any pretext for performing an operation, first proposed by Littre—that of opening the sigmoid flexure of the colon. If, after a careful dissection in the perineum, the rectum cannot be discovered, there seems no alternative between leaving the child to its fate, and opening the colon by an operation. Suppose the latter decided on, the steps to be taken are these:

> "The infant being extended on a soft pillow, an incision of the skin subjacent, cellular tissue, and fascia, should be made from one to two inches in length, between the anterior and superior spinous processes of the ilium, and the pubes, situated a little above Poupart's ligament. The different layers of the abdominal parietes ought then to be divided successively with a bistoury on a director, until the operator arrives at the peritoneum, which should be pinched up and

divided to the same extent as the external parts. By this last section, the intestine will be exposed, bearing a dark colour, and greatly distended with meconium. The left fore-finger ought now to be introduced so as to bring the bowel as far outward as possible, while with the right hand, a large, soft ligature, should be carried through its mesentery, by means of a curved silver needle. This being accomplished, a longitudinal incision should be made into the intestine, and the meconium evacuated; after which a mesh of anointed lint ought to be carefully introduced, so as to prevent the adhesion of the lips of the wound. Finally, each end of the ligature should be secured, on either side of the abdominal wounds, as to maintain the parietal and intestinal openings *in situ*. If the child survives, the ligature may be removed on the fourth day, as by that time the intestine will be firmly consolidated with the wound of the abdominal parietes.*

Callison has, in preference to the operation of Littre, proposed opening the cæcum, or descending colon in the lumbar region, by an incision in the course of the border of the quadratus lumborum muscle, by which the peritoneum is left untouched. This operation has never been performed but once, then by Roux, and in this case the child died in two hours.

Dubous first gave the idea, afterwards, carried into effect by Martin, of opening the sigmoid flexure of the colon, and then passing a sound through it towards the perineum, so as, if possible, to render it salient, and thus create a certain mark for our incisions in the perineum. It is to be hoped that no surgeon at the present day would be so cruel, as to subject an infant to this double operation, however ingenious and imposing it may appear at first sight." 56

This closes the account of the malformations of the rectum. It is by no means a bad one—indeed, for practical purposes, it is a very succinct, and yet sufficiently complete one. These malformations are by no means a matter of mere curiosity. Within these ten years we have ourselves seen six cases, all requiring operations. When they occur no time is to be lost, and the surgeon's ignorance or knowledge soon becomes apparent. It is therefore worth every practitioner's while to be well acquainted with these observations from the natural disposition of the bowel, and to be well acquainted also with the surgical measures, which experience has decided to be best adapted to remedying each particular evil. This consideration has induced us to devote so many pages to the subject. We now quit it.

II. Foreign Bodies in the Rectum.

These form the contents of the fourth chapter of the work of Dr. Bushe, and are not treated of at all in that of Mr. Syme. We, therefore, still cleave exclusively to the former.

The foreign bodies frequently, found in the rectum may be divided, says Dr. Bushe, into two classes, viz: Those which are generated in consequence of diseased action of the digestive organs, and those which are either swallowed or introduced through the anus. The former embrace biliary, intestinal and fæcal concretions; while the latter include pins, nails, fruit-stones, coins, small bones, &c., taken in by the mouth; or pieces of wood, cork, meat, bone, horn, ivory and metal, pots, cups, bottles, ferrules, rings and the like forced into the anus, either completely or incompletely, sometimes by the individual himself, with a view to obviate costiveness, or in consequence of a perverted imagination; but more commonly by wicked persons, who generally take advantage of the inebriated state of their intended victim.

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*" Dessault performed this operation on a child 48 hoursafter birth, but it was fatal. (Journal de Chirurg. tome iv. p. 248.) In 1783, Dubois operated on a child three days old, death however occurred ten days afterwards. (Recueil Periodique de la Societe de Med. tome iii. p. 125.) Duret, a naval surgeon at Brest, successfully operated on a child three days old. In this case the vomiting ceased immediately; the thread supporting the bowel was removed on the fifth day; on the sixth the opening was partially closed by the extrusion of the bowel, and on the seventh the infant was cured.) Ibid. tome iv. p. 45.)"

Unless the foreign body be either very large, or of such a form as to interfere with its exit, it will be discharged along with the fæces. If it is not, irritation, prolapsus of the mucous membrane, and inflammation, first in the part, then in neighbouring parts, and lastly in the bowels generally, will be the consequence.

The removal of such bodies must be effected by the surgeon. Various instruments will be required, according to the circumstances of the case. In the different instances on record, some of the more curious or instructive of which we shall quote, most of the following modes or instruments have been employed: blunt hooks of different sizes and shapes, a lever, gimlet, cutting forceps, strong long scissors with probe points, a six-inch narrow saw, wooden gorgeret, polypus and lithotomy forceps of different shapes and sizes, a speculum, strong waxed ligatures, metallic tube of various length and size, and a probe-pointed bistoury; to all of which the crooked finger and a small hand have proved admirable adjuncts.

In particular circumstances, particular precautions or manipulations are requisite.

A. *When the foreign body is large or spiculated*, it may be necessary to divide the sphincter. Mr. Hevin records a case, which was related to him by M. Tostain, a surgeon of Saint Lo, in which a bone that had been arrested in the œsophagus was forced by a probang into the stomach. While there it caused great pain, and also in its course through the intestines, which occupied about a month. The patient. who had for years been subject to hemorrhoids, at this time found the irritation at the anus much increased; he therefore consulted Tostain, who, in place of hemorrhoids, found a bone, one extremity of which had pierced the rectum, the flesh, and even the skin, the body being within the intestine, while some other points were engaged in the mucous membrane. To extract it, Tostain was obliged to make a small incision in the walls of the rectum. All the bad symptoms subsided, and the patient was well in eighteen days.

But the anus is very dilatable, and incisions of the sphincter may frequently be dispensed with. Dr. Bushe relates an interesting case in proof of this. He was consulted in the case of a delicate female, 35 years of age, who for seven years had been subject to constipation and repeated attacks of colic; the former had increased, attended with sickness of stomach, while the latter became more frequent, and from which she only experienced relief when her bowels were moved,—a task not accomplished without the most painful efforts and very great difficulty, much cathartic medicine and powerful enemata being necessary in each succeeding attack.

"I was called to visit her in one of those paroxysms, and found her sallow, emaciated and dejected. From the severe bearing down pains, together with the sense of weight and fulness in the sacral region, which she complained of, I was led to make an examination of the rectum, when I found the mucous membrane slightly protruding from the anus, and very turgid, the sphincter excessively irritable, and a large concretion distending the pouch of the rectum. I now apprized her of the nature of the case, and the absolute necessity of removing the foreign body, to which she willingly consented. Having placed her hips over the edge of the bed, and bent her knees towards her chin, while she lay on her back, I introduced a strong and long lithotomy forceps, with which cautiously laying hold of the concretion, I slowly and steadily extracted it, with no more injury than slight laceration of the mucous membrane; although on measurement it proved to be six inches and three quarters in circumference, and two inches and a half in length. The bowels were then freely evacuated by injections; leeches and fomentations were applied to the anus, the recumbent position was enjoined, and a speedy recovery ensued." 61.

B. *If the foreign body is of inflexible solid or vegetable substance*, it may be found advantageous to fix it with the fore-finger of the left hand, while we bore a hole in and extract it with a gimblet. Thus Saucerotte withdrew a piece of wood, three inches in length and two in width, with a cork-screw, which he inserted into the wood, while he steadied it with the fore-finger of his left hand. Bruchman performed a similar operation with a gimblet.

C. *If the foreign body is hollow or brittle*, an intelligent boy can best withdraw it by the hand well oiled and cautiously introduced into the rectum. In a note, Dr. Bushe quotes a curious case related by Nole, surgeon to the King of France and Marine Hospital at Brest.

Case. A monk wishing to get rid of a violent colic, introduced into the rectum a bottle of Hungary water, (these bottles are generally long,) through the cork of which he had made a small opening to permit the fluid to flow into the intestine. In his anxiety to perform the operation well, he pushed the bottle so far that it completely entered into the gut. He could neither go to stool nor receive a lavement. A *sage femme* failed to insert her hand; the forceps and speculum were tried in vain; however, a boy from eight to nine years of age, succeeded in introducing his hand, and removed the bottle.

Dessault, in endeavouring to extract a porcelain jelly pot by means of forceps, broke it; yet he got out the fragments.

D. *When a piece of bone, ivory, wood, or horn, is fixed across the intestine*, it may be extracted with the forceps, finger, or hand.

The following case is related by Hevin.

Case. M. Quesnay pushed a bone, which was arrested in the œsophagus, into the stomach. Afterwards this body presented itself near the orifice of the rectum. The patient, tormented with pain, called on Quesnay, who introduced his finger into the anus, and found the bone placed obliquely across the gut, with its inferior extremity fixed into its walls. He passed a forceps along his finger, and having seized the bone superiorly, lifted it up, thus disengaging its inferior portion He then grasped it lower down, and removed it without difficulty or pain.

Another case, detailed by M. Thiandiére, is curious.

Case. "A man, aged twenty-two, who, with a view to overcome costiveness, introduced a forked stick into the rectum. This stick was five inches long; one prong was an inch and a half longer than the other, and they were separated to the extent of two inches, each prong being about four lines in diameter, and the stem formed by their union half an inch. He inserted the stem first, and when the short prong had entered the bowel, he endeavoured, by dragging on the long one, to force out the indurated feces. In this ingenious essay it is unnecessary to say that he failed completely; the pain being very severe, he ceased his manipulations, and finding it impossible to withdraw the fork, he forced the long prong completely within the anus, with the extraordinary idea that it would be consumed with the food. Fearful to divulge the nature of his case, he bore his sufferings in solitude and despair, until the abdominal pain and difficulty in uriating led him to seek the aid of Thiandiere, who on making an examination soon discovered the foreign body, but it was so high up that he could scarcely touch it. He endeavoured, but in vain, to extract it with a forceps passed through a speculum. The happy idea then struck him of introducing his hand, which, after having washed out the rectum, he insinuated finger by finger. Conducted by the long branch, he succeeded in reaching the bifurcation of the stick, and disengaged it with difficulty from a fold of the mucous membrane, in which it had become entangled; then, compressing the prongs together, he safely removed it." 64.

In some cases it may be found advisable to divide it with a cutting forceps, or with a small saw, on a wooden gorgeret, after which each half may be removed with ease and safety. Méeck'ren, for instance, mentions a case which occurred to Tholuix, in which the jaw-bone of a fish was situated across the rectum. This surgeon cut it across with a scissors, and then extracted the two portions with ease.

E. *If the foreign body is rough and long*, the surgeon ought, if possible to fix a ligature on its inferior extremity, and then slip a tube over it; so as to protect the rectum from the violence it would otherwise inevitably suffer from the rough surface during the process of extraction.

Case. This is given by Marchetti. Some vicious students of Goettingen introduced into the rectum of an unfortunate woman, all, save the small extremity of a pig's tail, from which they had cut enough of the bristles to render it as rough as possible. Various attempts were made to extract it, but in vain. Marchetti being consulted, adopted a very simple and ingenious procedure, which consisted in securing its inferior extremity with a strong waxed thread, and slipping over it into the rectum a canula prepared for the purpose. He thus defended the bowel from the effects of the bristles, and easily removed it.

F. *If metallic rings, &c., cannot be removed with the finger, blunt hook, or forceps*, they should be divided with a strong cutting plyers, when, in all probability, difficulty will be no longer encountered. Should it be impossible to extract biliary and alvine concretions by means of a lever, the three-branched forceps, or blunt hook, they ought to be crushed with a stone forceps designed for such purpose, and then extracted in fragments.

G. *When Indurated Fæces obstruct the Rectum,* they should be removed with a scoop, or the finger. The sphincter usually soon yields to slow and steady pressure. When the pouch of the rectum is evacuated, a large quantity of warm oil should be thrown up, and the indurated mass thus softened. The patient should be placed as in the position for lithotomy.

H. *Leeches or Ascarides in the Rectum.* The former may accidentally enter the bowel. They will be readily expelled by injecting an infusion of tobacco, or a solution of salt.

Ascarides are occasionally lodged in great numbers between the folds and in the lacunæ of the mucous membrane of the rectum. They give rise to aching, and even lancinating pains in the anus, setting in generally towards the latter end of the day, or beginning of the night. In some instances these attacks are periodical.

Dr. Bushe confines himself to their mechanical removal.

"Brera has recommended this to be accomplished by the introduction of a piece of lard or tallow candle, which, he says, when withdrawn, will bring along with it the greater part of those impacted in the lower part of the bowel. Insertion of the finger as recommended by Howship, is, however, much more effectual, as we are able to withdraw it in such a manner as to extract worms that would elude the lard or candle. The better plan is to use a small lithotomy scoop for an intestine, and that of a director for the lacunæ. This latter instrument I found particularly useful in a case of a boy nine years old, who from his weaning had been tormented with ascarides, and for some weeks had suffered from excruciating pain in the anus, which was greatly aggravated for a few hours after going to bed, attended with fever and slight delirium." 67.

To many of our readers we think that some of the preceding facts will be new, and the surgical directions, perhaps, useful. Both evince much industry, and sound judgment on the part of Dr. Bushe.

III. LACERATION OF THE RECTUM.

Here again Dr. Bushe has the field to himself. Mr. Syme has nothing to say on this subject.

Laceration of the rectum may be incomplete, or it may be complete.

1. *Incomplete Laceration.* This seldom extends beyond the mucous tunic, and, in the majority of cases, is produced by the expulsion of indurated fæces, it may, however, result from the introduction* or extraction of foreign bodies. If the consequence of defæcation, the rent is either transverse or vertical. When transverse, it is situated above the internal sphincter, and is the effect of the forcible extrusion of a fold of the mucous membrane, which lapping under the mass of indurated fæces, becomes forcibly everted by their expulsion, and in undergoing this change of position, is torn from side to side. When vertical, it generally terminates where the skin and mucous membrane unite, and is the result of forcible and violent distention of the anus.†

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* The pipe of the syringe, when awkwardly introduced, may lacerate the mucous membrane.

† In some cases of constipation, while the expulsive muscles act with great

The production of this accident is attended with a painful sensation of tearing and a discharge of blood. The pain, however, gradually, but never entirely subsides, and is always renewed, with more or less severity, by each successive evacuation. Soon after the accident occurs, inflammation commences, effusion of lymph takes place, the edges and base of the rent become swollen, granulations sprout up, followed by suppuration, and now either cicatrization ensues, or the wound is converted into an ulcer.

The treatment of these cases may be easily summed up. Avoid active purgatives—keep the bowels open by the mildest means, emollient injections, castor-oil, and so forth—cleanse the wound very carefully, after each evacuation, a very small quantity of feculent matter lodging in it, being often sufficient to produce extreme suffering—if the wound is very irritable, touch it twice or thrice with cuastic, and apply a poultice made with bread and a solution of the superacetate of lead with laudanum—enjoin the horizontal posture—regulate the diet.

Dr. Bushe adds three cases, of which we shall give one. It illustrates the symptoms and the treatment of the affection.

Case. "Mrs. C, from whom I removed piles last Summer, sustained a laceration of the mucous membrane, and fine skin of the verge of the anus, in the act of expelling indurated fæces. After suffering great annoyance for five days, she sent for me and complained of pain in the anus, with spasm of the sphincter ani, great nervious excitement and constipation. On examining the parts I discovered a crevice on the left side of the anus, with an extensive base and tumid edges, between which were two small peices of indurated fecal matter. I ordered an emollient lavement, teped ablution, and a saturnine poultice with laudanum, by which her symptoms were mitigated for some hours, but the spasm of the sphincter returning with violence during the night, her sleep was broken; therefore on the following morning, when I visited her, I passed a cane of caustic thrice over the lacerated surface, having previously exhibited an enema and cleansed the parts thoroughly. I then applied a fresh saturnine poultice with laudanum, and enjoined a continuance of the horizontal position. The burning pain soon abated, the spasm did not return, and with the aid of enemata, ablution, saturnine poultices, impregnated laudanum, and the horizontal position, she rapidly recovered." 73.

2. *Complete Laceration of the Rectum.*

This is described by Dr. Bushe under three heads, and his account of it is both full and satisfactory.

A. *First Species.* The accident, most commonly designated rupture of the rectum, is in reality nothing more than rupture of the sphincter ani, and is produced by parturition. The circumstances on which it depends, belong either to the mother or the child. Those which appertain to the mother, are, firstly, her position; secondly, the form of her pelvis, and thirdly, the figure of her perineum.

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energy, the sphincter remains contracted, and yields but slowly, so that the indurated fæces contuse and abraid the surface of one or more points of the mucous membrane, which, if they do not heal, become converted into fissures.

Her position. When she is allowed to remain in the sitting posture, or to lie on her side, with the lumbar vertebræ curved forward, as in the case when pressure is made against the loins, the head of the child is directed downward and backward, pressing on the rectum and perineum.

Form of her pelvis. When the lower extremity of the sacrum is but little curved forward, as is sometimes the case, the pubeo-cocygean diameter of the pelvis is increased, and in this case, as well as when the sacro-vertebral articulation is prominent anteriorly, the axis of the pelvis passes more backward, consequently the inclination of the plane which ought to direct the head of the child forward, is diminished, and the arch of the pubis presses it, or, to speak more correctly, gives it a direction downward and backward.

Figure of her Perineum. The perineum is occasionally prolonged considerably forwards, so that the vulvular orifice is exceedingly small, and situated close under the arch of the pubes. The majority of cases of this kind are of original conformation; but there are a few purely accidental. About a month ago, in examining an unmarried lady, who was the subject of an immense uterine tumor, Dr. Bushe could scarcely insert his finger into the vagina, and this did not depend upon an obstruction caused by the hymen, but was produced by the prolongation of the perineum. When this state of parts is accidental, it is the result of cicatrization consequent upon laceration or ulceration of the inferior portion of the vulva and perineum. M. M. Buet and Dupuytren each relate a case of this kind resulting from laceration. In Buet's case, sureties were not used, but were in that of Dupuytren. Should a female so formed become impregnated, it will, in all probability, be impossible to prevent laceration of the perineum, which will take place in the median line if this be the weaker part, but if the barrier be equally strong, there may be perforation.

Case. "In 1833, I attended a lady, about thirty years of age, in her first accouchement, in whom the perineum was prolonged much forward. Her labour went on kindly until the head of the child came in contact with the external parts, then, the most violent pains, frequently repeated, were scarcely sufficient to propel the child. It was with great difficulty that I was able to prevent the perineum from being extensively lacerated; it however suffered much. Being called to this case in the night, and not expecting any necessity for my pocket case, I did not bring it, else I should have had recourse to a procedure in this instance which, afterwards, I advantageously pursued, under the following circumstances." 76.

Those circumstances were the following.

Case. In May, 1834, Dr. Bushe was requested to see a lady. He did not go immediately, and, in two hours, a second urgent message was sent.

"I therefore repaired to her dwelling with all possible speed, and found a healthy young lady, (about twenty,) in labour with her first child, and from the piercing character of her cries, I lost no time in making an examination; when, to my great surprise, I found the perineum much elongated, the orifice of the vagina extremely narrow and close to the pubes, and the head of the child pressing forcibly downward. When the pain, which was violent, subsided, and the head retreated, I introduced my finger, and to my discomfiture, found a rent at least four inches in length, extending transversely through the posterior part of the vagina, about an inch and a half from the vulva. I now inserted my finger into this laceration, and distinctly felt the lower extremity of the rectum firmly contracted. Another pain soon came on, which fortunately was not very strong, so that I was able to support the child's head, while I had a probe-pointed bistoury taken from my pocket case, and when the pain ceased, I divided the perineum obliquely downward and outward on both sides, to an extent sufficient to allow of delivery without further laceration. In this case, I have no doubt had I been a little later, there would have been perforation of the perineum." 67.

Circumstances relative to the Child.—These are numerous, and Dr. Bushe mentions only the most common:—the large size and solidity of the head; the rapidity with which it is propelled; neglect in supporting the perineum; omitting to see that the child pursues properly the axis of the pelvis, in proportion as it passes through the external parts; disengaging the child clumsily and violently with the arm turned towards the rectum, when either the head or feet present; attempting forcibly to pull the arm corresponding to the rectum, directly downward and backward, instead of bringing it laterally across the concavity of the sacrum, before withdrawing it; neglecting to loop the forceps when placed on the child's head; leaving them locked and continuing their use after the head has been brought to the external orifice; making the traction too rapidly and carrying the instruments too far backward, when they are used to bring the head through the external parts; forgetting when the occiput corresponds to the symphysis pubis to commence elevating the forceps as soon as the head presses on the perineum, so that when this part has passed through the vulva, the forceps will describe a right angle with the abdomen of the mother.

Extent of laceration.—As Dr. Bushe has already observed, it commences in the perineum, and never occupies more than the sphincter ani and mucous membrane of the lower part of the rectum. Nor is it likely that it should do more. If an opinion to the contrary has prevailed, that has arisen, in Dr. Bushe's opinion, from the depth of the cleft, resulting from the facility with which these over-distended and naturally lax parts admit of swelling. In consequence of the depth of this cleft, it entangles the fæces, which in such cases are rendered fluid by either medicine or enemata; so that on a superficial examination, a surgeon may easily be deceived as to the real nature of the accident.

B. *Second Species.*—In this, the rupture is above the sphincter, and is sometimes produced by the elbow, or lower extremity of the child, by the crotchet, by forcibly straining to evacuate the rectum, when impacted with indurated feces, but more commonly by the introduction of foreign bodies, particularly of bougies and injecting pipes, these instruments being forced in some instances into the vagina, and in others into the peritoneal cavity. Dr. Bushe once witnessed a case in which the end of an umbrella was projected, in the act of sitting on it, into the rectum, and, passing on obliquely, perforated the recto-vaginal partition.

C. *Third Species.*—"The vagino-rectal partition, sphincter and perineum, are sometimes, though rarely, lacerated. This is most commonly produced by the head or buttocks of the child being directed so far backward, that when the uterus contracts, the recto-vaginal partition is forced downward before the head of the child, and protruded through the dilated anus, and then ruptured from within outward. In 1833, I accouched Mrs. W., the mother of several children, who was in an advanced stage of consumption. Her pains advanced so rapidly, that on my arrival I made an examination, when I found that the head of the child was forcing down the vagino-rectal partition, and had dilated the anus to a great extent. With as little delay as possible, I turned her on her back and gave the head of the child an inclination forward, so that the delivery was safe and rapid." 80.

D. *Treatment.* In the first instance this should be calculated to moderate inflammation. Horizontal posture—enemata—cleanliness, and so forth. When granulations sprout up, the bowels should be as little moved as possible. Dr. Bushe recommends giving laudanum to promote constipation; but it must be recollected that a stool *must* sooner or later be had, and one costive one will do more mischief than many gentle fluid ones. We therefore disagree with him on this point. We would advise liquid nourishment which will not *make* stools—and occasional gentle enemata to bring away what there are, in the best condition for the parts.

"It is only at this period, that sutures should be inserted; for in the many cases I have witnessed, I have never seen one in which union by the first intention took place. This I think may be accounted for by the profuseness and irritating character of the vaginal discharge. When the sutures are inserted in the first instance, they are put upon the stretch by the subsequent tumefaction, and having partly cut their way out, they become quite loose, and consequently are useless during the process of granulation." 81.

When the rupture only extends through the sphincter and mucous membrane, Dr. Bushe does not think the sutures commonly employed sufficient; because, in fact, they do not extend to the bottom of the cleft. Sometimes they answer, but often they do not.

"To obviate the inconvenience which I have ascribed to the interrupted suture, I have devised a pin which is represented in plate viii. fig. iv. This instrument is as thick as that used for hare-lip, and consists of three parts. The first, which is made of silver; is from one and a half to two inches long, curved as represented in the plate, terminating at one end in a female screw, and at the other in a transverse shoulder about a quarter of an inch long. The second is a triangular steel pin, exactly resembling that used for hare-lip, and screws into the extremity of the first portion. The third is made of silver, and resembles the transverse shoulder of the first portion, with this exception, that a small male screw passes vertically from its centre, so that it may be fixed into the first portion, when the second is removed. This instrument is to be used in the following manner: the first and second portions being united, provided the tumefaction has nearly subsided, and granulations are formed, the patient should be brought to the edge of the bed, her hips elevated, and her knees approximated and carried towards the chin. The parts being now cleansed, the needle ought to be dipped in oil and inserted into the left side of the perineum, a line more than half the breadth of its curve from the edge of the wound, and immediately above the verge of the anus. When it has passed vertically for a distance equal to two-thirds of the depth of its curve, its point should be projected transversley so as to cross the bottom of the wound, and then carried outward through the other side of the perineum. This stage of the operation will be greatly facilitated; firstly, by pressing out the left labium during the transmission of the needle through the left portion of the perineum and the base of the wound; and secondly, by steadying the right side of the perineum, with the extremity of the thumb placed immediately without the point through which we desire the needle may pass. When the puncture has been completed, the steel pin should be unscrewed and the third portion fixed in its stead. If it be thought advisable to insert a smaller pin higher up, it may be done, and then a thread should be twisted over their extremities, as in hare-lip. It may be prudent to place a light bolster of lint beneath the twisted ligature. This method of operating was first carried into effect in the alms-house of this city, by my friend Dr. Stevenson, who, not only on this, but on other occasions, afforded me opportunities of testing chirurgical innovations." 83.

The principle of this "innovation," and the nature of the pin, are so obvious from mere description, that we do not think it necessary to subjoin a wood-cut. The idea appears to be a good one. Dr. Bushe relates a case in which he operated with complete succes on a lacerated perineum of five months' standing.

When the rectum is ruptured above the sphincter, provided the rent be not large, it will generall heal: firstly, by keeping the patient on a meagre diet, enforcing the horizontal position, and relieving the bowels with enemata, provided the peritoneum be not lacerated, and with castor oil if it is; and secondly, when suppuration is established, by exhibiting opium to quiet the bowels for a few days. If, however, the wound does not heal, its edges should be pencilled with lunar-caustic. In the case above alluded to, in which the rectum was torn by the extremity of an umbrella, the edges of the wound required three applications of caustic before they adhered. Dr. B. admits that such cases may require the actual cautery.

When the recto-vaginal partition, sphincter, and perineum are torn through, the case is serious. In one bad case he operated with success by means of the perineal pins already described, small curved needles, and the *pince porte aiguille* of Dieffenbach.

Dr. Bushe is not inclined to attach much value to the plan lately advocated by some surgeons in this country, of dividing the sphincter ani in cases of laceration of the rectum

IV. INFLAMMATION OF THE RECTUM

Mr. Syme has nothing to say upon this. Dr. Bushe has not a great deal. There is not, in reality, much to be said.

It is usually produced by causes so obvious that we shall not enumerate them. But we may observe that, in two cases, Dr. Bushe, *thought* he traced it to gout; and he has found it very common in coachmen, from sitting on cold and wet seats in Winter. He does not mention erysipelas as a cause, yet it is not an uncommon one. The symptoms, as we know by observation ourselves, are both severe and formidable. Dr. Bushe's description coincides with what we have personally witnessed.

The disease, he writes, is manifested by a sense of fulness, weight, burning and throbbing in the fundament, which is increased by sitting erect. The act of defecation is accompanied with and followed by severe pain, which, from the contraction of the sphincter ani, assumes a spasmodic character. The heat of the intestine is much increased, as may be ascertained by the introduction of the finger, which, however, is attended with horrible suffering. There is considerable fever. The urinary organs sympathize —

there may be dysury, strangury, or even retention of urine; the first and second of these arising from actual inflammation of the *trigone vesicale*, and the third from spasm of the perineal muscles. After the disease has continued for some time, the cellular tissue external to the rectum becomes engorged, and, if the primary affection be not removed, suppurates. Occasionally, the peritoneum becomes inflamed, and the patient's suffering and danger are thereby much increased; but, fortunately this is a rare occurrence. In some cases, particularly in robust persons beyond the meridian of life hæmorrhage occurs from time to time, especially after stool, and invariably brings relief. The inflammation sometimes extends to the colon, and then a new series of symptoms sets in, viz: tormina, tenesmus, muco-sanguinolent evacuations, and a considerable increase of fever. Females are sometimes tormented with bearing down pains, and profuse mucous discharge from the vagina. It not unfrequently happens that, after the disease has continued a few days, an abundant purulent secretion takes place, with which the pain, burning and throbbing subside, the febrile symptoms disappear, and complete restoration rapidly ensues Some practitioners are alarmed at the appearance of this discharge, supposing that it indicates an extension of the inflammation to the colon; therefore, it is well to know that the fæces are of their natural aspect in inflammation of the rectum, while in dysentery they are mixed up with blood and mucus.

The worst cases, that have fallen under our own observation, have arisen from the extension of erysipelatous inflammation to the bowel. Such cases are too often fatal. The patient has extreme anxiety—frequent but not strong pulse—loaded, and often dry tongue—hot skin—perhaps delirium. The belly is tympanitic, and there is obscure pain upon pressure, especially in the hypogastric and the pubic regions. Sometimes there is vomiting, in all cases there is purging, with great pain in the bowel for the most part, when the stool passes. These are the chief-symptoms. If the patient recovers they decline—if, as often happens, he dies, typhoid symptoms set in, and on examination, after death, there is either diffused redness of the intestinal mucous membrane, or diffuse inflammation of the pelvic cellular membrane, or, which is uncommon, there is peritonitis.

The treatment consists in removing, if possible, the cause of the disease. The remedies will in some degree be determined by that necessity. General blood-letting *may* be requisite—leeches round the anus are more often proper. Diluents—sitting over the vapour of hot water—opiate enemata and poultices—fomentations to the abdomen—in some instances calomel and opium, are remedies which will probably suggest themselves to the well-informed practitioner. When the affection results from erysipelas, depletion must be avoided.

When women suffer from bearing-down pains, anodyne enemata and warm hip-baths afford them most relief.

Strangury and dysury require no other treatment than the warm hip-bathing; but should there be retention of urine, we ought, in addition to the remedies already mentioned, exhibit a full dose of morphine. In case this ails, a solution of tartar-emetic should be given every ten minutes until it produces vomiting; when if it does not produce the desired effect, as a last resort, a gum-elastic catheter ought to be cautiously introduced.

V. Inflammation and Excoriation of the Anus.

They occur more often in the corpulent than in the lean—in gross livers, than in temperate ones. Walking, riding, hot-weather, irritating secretions, bring them on.

The general treatment should improve the secretions.

The local consists in cleanliness—wash of zinc or Goulard—absorbent powders—or sedative ointments. The best we know of is the following:—

℞ Unguenti Zinci,
Cerati Plumbi, āā ℥ ss
Acidi Hydrocyan. Med. ♏ v.
M. ft. Unguent.

The parts should be first bathed with tepid goulard water, and then this ointment should be applied to them. With the following suggestions of Dr. Bushe, we pass to another subject:—

> "When excoriations arise from want of cleanliness, the hair and discharge become matted together, and thus form a crust, which covers the excoriated surface. Under such circumstances, the parts ought to be poulticed, until the crust becomes so soft that it can be removed without cutting the hair, for should this be done, as I have once seen, the irritation created by the stumps will increase the inflammation, protract the healing of the suppurating surface, and render the patient exceedingly uncomfortable, until the hair has again acquired sufficient length to diminish the friction of the buttocks on each other. After the parts are sufficiently cleansed, a saturnine cataplasm impregnated with laudanum should be applied, and changed every six hours, at which time the diseased surface ought to be washed with cold water and with the common yellow soap." 94.

VI. Inflammation of the Rectum and Anus arising from the application of Gonorrhœal Matter.

Our author's sentiments on this head may be comprised in one short quotation.

> "In cases of this kind, in addition to the symptoms of inflammation mentioned in the two last chapters, there is profuse purulent discharge from the commencement, which produces excoriation of the anus, and, in some instances, of a considerable portion of the adjacent parts.
>
> In the treatment of this disease, besides the means recommended in the chapter alluded to, injections ought to be employed. Those of the superacetate of lead, sulphate of copper, and more especially of the nitrate of silver, in the proportion of five or ten grains to an ounce of distilled water, are the most appropriate."* 97.

This must be admitted to be a very imperfect account of a not unfrequent and, at times, a very troublesome affection. We will add what will tend to make the description more complete, although we shall only touch on the more important circumstances.

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* "Velpeau recommends Howard's calomel in a decoction of marsh mallows, in the proportion of a drachm to an ounce. He also entertains a good opinion of a white precipitate ointment. (Dict de Méd.")

Gonorrhœal inflammation of the extremity of the rectum is more common, for obvious reasons, in females, than in males. It is usually of a chronic character, at least we have never seen it acute. The patient seldom complains to the surgeon until there is excoriation. If observed before that stage, there is itching and uneasiness felt at the anus, and pain on going to stool, especially if this is costive. If the surgeon examines the rectum, it appears red in converging streaks, or rather in streaks stretching into the gut. On minutely examining the inflamed surface, it will be found in parts deprived of its epithelium, and secreting a kind of mucus.

At a later period, the excoriations have become ulcers. These are usually superficial, yellow on the surface, with a thin red edge sometimes undermined, and a moderate discharge. At the time of stool, especially if this is at all a confined one, the pain felt in the ulcers is excessive

At other times the excoriations, instead of ulcerating and forming sores more or less excavated, are attended with interstitial deposition into the subjacent cutis, and form superficially ulcerated condylomata. These are found in the perineum, and especially at the verge of the anus. The colour is of a dirty red, with an irregularly whitened surface; the latter appearance being due to the adhesion of the discharge of the superficial ulceration. The condylomata are in general not painful, unless they encroach so much upon the anus as to be streched or torn by the passage of the fæces. By the patients they are not unfrequently mistaken for piles, and an ill-informed surgeon may commit the same blunder.

The treatment of the excoriations, before they become actual ulcers, is simple. Cleanliness—black-wash—the diminution and removal of the exciting cause, the gonorrhœal discharge, and the prevention of its contact with the parts affected—and smart purging are usually sufficient.

The ulcers require, in addition to such means as are calculated to remove the gonorrhœal complaint, the application of lunar caustic to themselves. This should be employed every second or third day, and the bowels should be kept gently opened by means of castor oil. A dose or two of calomel and opium, and, if necessary, an opiate suppository or enema, tend greatly to assist the lunar caustic in removing the excessive irritabilty of the sore.

The excoriated or ulcerated condylomata are often troublesome. The best local application is, in most instances, the solution of oxymuriate of mercury The strength may vary from half a grain to two grains to the ounce. If ulcerated, they may be touched, at intervals, with lunar caustic. It is often requisite to put the patient under the influence of mercury, in order to remove the condylomatous thickenings.

Such are the brief observations we would offer on these matters.

VII. FISSURE OF THE ANUS.

We cannot yet introduce Mr. Syme to our readers, but must still confine ourselves to Dr. Bushe. The affection, we are now about to consider, is commonly known in this country under the name of ulcer of the rectum. It is pretty common, very painful, difficult to treat, and liable to be overlooked by a surgeon ill-acquainted with its symptoms and its seat, comparatively easily managed, and still more easily detected by a surgeon well acquainted with its characters. On these accounts, we shall devote some little attention to it. Dr. Bushe's description is very circumstantial, and very accurate.

> "The disease," he says, "is an ulcer, about the eighth of an inch in breadth, and from a quarter to an inch in length, situated immediately within the anus, generally on one or both sides, occasionally on the posterior, and still less frequently on the anterior part of the aperture. In the majority of cases it is confined to the mucous membrane, though occasionally it extends to the muscular tissue. Its inferior extremity generally corresponds to the edge of the external sphincter, though sometimes it is placed a little higher up or lower down. The base of this oblong ulcer is generally red, but sometimes grey, in consequence of the deposition of lymph. When recent, its edges are soft, pliant, and but little elevated; in proportion, however, as it becomes chronic, so are they more hard and prominent, changes which depend upon the interstitial deposition of adventitious matter from the irritated capillaries.
>
> The surrounding mucous membrane is in its natural state in some cases, particularly when recent, but not unfrequently it wears an erysipelatous hue, and again assumes a livid aspect, and becomes soft.
>
> Women are more subject to this affection than men, which aries from their leading more sedentary lives and, consequently, being more subject to constipation of the bowels. It generally occurs in the meridan of life; nevertheless, I have treated a case in a girl of eighteen, and another in a woman of sixty-nine years of age.
>
> In the majority of cases it is preceded by vascular tumours of the rectum; then it is situated between two of them, and is produced by the forcible passage of indurated feces. In this act the vascular tumours are first prolapsed, and then separated, during which process the mucous membrane, rendered friable by inflammation, is ruptured. The contraction resulting from operations performed in this region, and the spasms of the sphincter, by opposing the free egress of the feces, becomes a frequent source of fissure in the former, by disposing, to rupture, and in the latter by contusion and abrasion of the mucous membrane.
>
> In the three different instances I have mentioned, the laceration of the mucous membrane does not heal, because the primary affection still continues, and even in some instances, as heretofore explained, (see chapter v.) the rupture is converted into an ulcer, though no primary affection existed.
>
> Besides the causes now specified, inflammation, and consequent abrasion, may, from the columnar arrangement of the mucous membrane of the lower extremity of the bowel, give rise to one or more fissures." 101.

The symptoms are the following:— In the commencement of the disease, they are not severe, being merely, at one time, a pricking or stinging sensation, at another, a slight smarting in a certain point of the anus, which, under the use of lavements and low diet, subsides either altogether, or, after a few days, returns with some severity. The pain, gradually increasing becomes burning, sometimes lancinating, and when severe, throbbing. It is increased by forced expiration, as coughing, sneezing, and urinating. Every effort to discharge gas and fæces, is attended with excruciating torment, which continues for one or more hours, attended with violent spasmodic action of the sphincter ani. So violent is the agony, that most persons thus afflicted put off the calls of Nature, maintain the recumbent position, and some even avoid taking a proper quantity of nourishment, for fear of increasing the fæcal mass. The pain is always increased by stimulating food, and in females durng menstruation. Occasionally Dr. B. has seen it assume a periodical character, which depended upon some peculiar state of the constitution. When the fæces are solid, they are slightly streaked with blood and matter, and when more soft, are figured and of small size.

Of course the actual existenee and precise seat of the fissure are only to be ascertained by inspection and examination. For this purpose the buttocks should be forcibly separated, when the inferior extremity of the fissure will be brought into view; but in some rare instances we cannot accomplish this object, in consequence of its elevated site, and we are compelled to trust either to the introduction of the finger, or to the dilatation of the anus with the speculum for its detection. In a few cases, though it is immediately discovered upon separating the buttocks, we can only ascertain its length, by the means just mentioned.

The introduction of the finger is attended with great difficulty and torture, particularly when pressure is made on the fissure, which seems, in some instances, to be a mere depression, in other, to be surmounted by pretty high edges, while in a few rare instances, we only become cognizant of its situation by the increase of suffering in a certain point, under the same amount of pressure.

When the pain is violent during and after stool, it is accompanied with fever; and when it continues for any length of time, emaciation, hypochondriasis, and an irritable state, with a severe train of nervous symptoms, ensue.

Treatment.—On this head, Dr. Bushe's observations appear to us so satisfactory, that we transcribe them in full.

"The patient should be kept on a low diet, and confined to the recumbent position. The common practice of administering cathartics, so as to produce fluid evacuations, cannot be too highly censured,—for such discharges stimulate the ulcerated surface, and thus induce dreadful irritation and spasmodic contraction of the sphincter ani; therefore, the better plan is to administer daily an enema of flax seed tea, and after its operation to cleanse the parts well. If the disease be mild, the application of the unguentum acetatis plumbi will be sufficient for its healing, and if there be much spasm of the sphincter, the extract of belladonna will prove a powerful auxiliary. Dupuytren recommended an ointment of this kind, the proportion being a drachm of the lead, and the same quantity of the belladonna, to six drachms of lard. Before I became acquainted with his practice, I was in the habit of applying the nitrate of silver to superficial fissures attended with spasm, and them introducing meshes of lint, besmeared with a mass consisting of one part of the extract of belladonna, and seven of spermaceti ointment, a course of practice which has succeeded when Dupuytren's ointment has failed.

When a fissure will not heal under this treatment, and the patient continues to suffer, we should no longer delay the division of the sphincter, which never fails to give immediate relief, and to effect a rapid cure.

To perform this operation, the patient should be placed opposite a window, couched on his side; an assistant ought to separate the buttocks, and retain them so during the operation. The surgeon having oiled the fore-finger of his left hand, inserts it into the anus as far as the second joint, and uses it as a conductor for the knife, delineated in plate viii., fig. iii., whose blade is two inches long, and one eighth broad, with a blunt extremity. Having passed the blade flatwise as high as the superior border of the internal sphincter, he then turns its edge towards the fissure. provided it be on the side of the bowels, and divides both sphincters, by cutting from within outwards, gradually increasing the pressure so as to ensure the complete section of the external muscle. Provided a fissure exists on the opposite side, it ought to be treated in the same manner.

When the posterior or anterior portions of the intestine are the seat of disease, as the division of the sphincter and not the fissure is the desirable object. the incision ought to be made on the side; because in this way, the external sphincter can be safely, yet perfectly, cut across, and the inconvenience arising from the shortness of the space between the coccyx and verge of the anus, the proximity of the bulb of the urethra in the male, and the shortness of the perineum in the female, is avoided. But there is also another objection to the performance of this operation in the median line, viz. the difficulty in healing wounds in this situation, in consequence of the friction created by the motion of the inferior extremities. After the hemorrhage ceases, dossils of lint should be placed in each wound, and secured by a compress and T bandage. A full dose of morphine ought to be exhibited, and nothing but toast-water, broths, gruel, and the like, allowed for two or three days. The dossils of lint, compress and bandage, should then be removed with great care, the bowels washed out with an emollient lavement, and fresh dressings applied. This course ought to be pursued daily, gradually diminishing the size of the dossils of lint, until the wounds heal, which will be in about three weeks." 107.

Dr. Bushe relates four cases; but, though they illustrate the effects of treatment, they are not necessary for its comprehension. We therefore omit them.

VIII. Neuralgia of the Extremity of the Rectum.

Dr. Bushe suspects that, in the majority of cases described by authors, in which both the anus and genito-urinary organs were said to be the seat of neuralgia, no such disease affected the anus, but that, in consequence of irritation in the genito-urinary apparatus, the sphincter ani was thrown into a state of painful contraction. Dr. B. relates the "only genuine" case of neuralgia commencing in the genito-urinary organs, and from thence extending to the extremity of the rectum, which has come within his observation.

Case. A physician of middle age, active habits, and tolerably good health, but a nervous temperament, was subject to occasional attacks of neuralgia of the face, stomach, and testicles. Twice or thrice in the year, he would be seized with pain over the pubes and a desire to micturate, which generally subsided in twelve or twenty-four hours. More rarely, he suffered excruciating pain in the end of the penis, or in the posterior part of the urethra, attended with a similar state of the extremity of the rectum, but without contraction of the sphincter. These attacks were generally either preceded or followed by neuralgia elsewhere. He tried various remedies without advantage, and at last contented himself with pressure during the paroxysm, which he thought was always considerably moderated by this expedient.

Our author details three cases in which the neuralgia seemed to be confined to the extremity of the rectum. These cases are interesting, if not practically important; and we shall notice them.

Case 1. In 1829, Dr. Bushe was called to see Mrs. H., a nervous lady, about thirty years of age, who, for several months, had suffered from lancinating pain in the extremity of the rectum. For weeks this pain would be very severe, and then nearly, but not altogether, subside. Her distress was greatest towards the close of the day, and then she was compelled to go to bed and take *black drop.* Changes of temperature had a baneful influence on her, not only increasing the pain in the anus, but rendering her restless and melancholy. Her bowels were generally constipated, to remedy which she generally took three doses of magnesia every week. During defecation her distress was very much increased, especially when the excrement was hard. Dr. B. examined the parts with great care, but could not detect any organic lesion. There was no spasm of the sphincter, and she bore pressure on every part of the rectum that the finger could reach without pain, save on a spot about the size of a shilling on the left side of the intestine, rather less than half an inch above the verge of this orifice, which was so exquisitely tender that she screamed out when the finger was pressed against it. He recommended her to try anodyne suppositories, blue-pill, and the carbonate of iron; but never learnt the result.

Case 2. In 1831, Dr. Bushe was consulted on the case of Mrs. E., a delicate lady, of nervous temperament, aged twenty-five. She informed him that for three years she had laboured under some disease of the anus, which commenced insidiously, and without any known cause. She had become irritable, desponding, and emaciated. Her bowels were never moved without medicine, which she had recourse to every alternate day. During the fæcal discharges, and for some time afterwards, she invariably suffered the most excruciating pain, which was attended with involuntary contractions of the sphincter. For some months past, she was never entirely free from pain, and for weeks together it assumed a periodical character, gradually increasing every afternoon, and then mitigating in about three or four hours. Atmospheric changes never failed to affect her,—the pain, when stormy weather was about to take place, being most agonizing. While suffering severely, Dr. Bushe made an examination of the parts, but could not discover any structural derangement; however, the sphincter was so forcibly contracted, as to render the introduction of his finger not only exceedingly difficult, but painful; and one point of the gut, a few lines above the anus, on the right side, was so tender that, when he touched it, she was thrown into the greatest agony.

"I therefore carefully examined the parts, thinking that I might detect a fissure, but my conjecture was not realized, for the painful point in every respect appeared perfectly healthy. I endeavoured to relieve her by purgatives, iron, quinine, arsenic, lavements, opiate suppositories, and the introduction of meshes of lint besmeared with seven parts of spermaceti ointment, and one of the extract of belladonna, but without effect. It then occurred to me that an incision carried through the painful part and the sphincter, was a feasible means of relief. I communicated my views of the case to Mr. E. who consented to the proposed operation, which I performed with perfect success." 115.

Case 3. In 1833, Dr. Bushe was consulted on the case of Mrs. W.

"She was about nineteen years of age, of a fragile constitution, exceedingly nervous, and for seven years had occasionally been the subject of neuralgic pains in the face. She had been married between five and six months, and pregnant for three; during the last six weeks, she was seized every two or three days with violent lancinating pains in the anus, attended, when severe, with alternate contraction and expansion of the sphincters of the most forcible and sudden character; the latter being productive of a discharge of mucus mixed with a small quantity of blood, and sometimes with feces. During these attacks she was in the habit of folding a napkin into as small a compass as possible, placing it between her buttocks, and sitting on a wooden chair.* By this expedient she found that her suffering was greatly mitigated, though she was constantly compelled to have recourse to morphine. I tried various remedies, as iron, quinine, arsenic, anodyne, enemata, &c., without effect; however, upon quickening, the pain ceased, and did not return until last Spring, when she was again pregnant; but upon her miscarriage, which occurred on the third month, it again vanished.

I may mention that after this lady weaned her child, I have seen her nearly deranged with neuralgia of the face.

This case is not exactly like either of the preceding, as there was no part of the extremity of the bowel more affected than another, and the pain, which was not constant, instead of being increased, was relieved by pressure; yet that they were all cases of neuralgia, there can be no doubt."† 116.

IX. SPASMODIC CONTRACTION OF THE SPHINCTER ANI.

This subject is discussed in the eleventh chapter of Dr. Bushe's work, and in the sixth of Mr. Syme's. In the notice of the symptoms and effects of fissure of the anus, allusion was made to spasmodic contraction of the sphincter as one of them. In the present instance the latter affection is to be regarded in the light of a more substantive affection.

A. *Simple Spasmodic Contraction of the Sphincter Ani.*

Symptoms.—Mr. Syme's account of these is not a bad one.

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[*] "Montegre, when treating of the character of these pains, says, 'Et alors chose remarquable, la compression les soulage.' Velpeau has expressed the very opposite opinion, (Dict. de Med. ed 2d. tome iii. p. 282.) As these cases demonstrate, both authors are in error, and the cause has been the same in both instances, viz. an avidity to draw general conclusions from isolated facts.

[†] "Mr. Mayo relates the following curious case of this disease: 'I attended a patient with Mr. Stephenson, of the Edgeware-road, who suffered from pain in the rectum. Something less than two years before this, he had a syphilitic ulcer on the penis, for which he had taken an unusual large quantity of mercury, owing to the difficulty of producing sensible mercurial action on his system. The ulcer, however, healed; but while he was recovering, and his system was yet charged with mercury, he began to experience aching pains in the incisor teeth and in the rectum. The sense of aching in the teeth and in the rectum was not constant, but would come on frequently during the day, without any assignable cause. It had lasted a year and a half, during which he remained perfectly free from symptoms of lues. The patient, who was otherwise in good health, suffered his mind to be greatly distressed by the continuance of the neuralgia. He was anxious to try every plan which held out the least promise of benefiting him. But of all the remedies which he tried, he appeared to experience relief from one only, which was a course of sarsaparilla.' (Observations on Injuries and Diseases of the Rectum. London, 1833, p. 56-7.")

"Cases," he says, "are occasionally met with in which the patient expresses great suffering from uneasy feelings referred to the neighbourhood of the anus, though no alteration of structure in the parts concerned can be detected by the most careful examination. It is stated that the bowels are evacuated with difficulty and pain,—that the pain frequently does not come on until after going to stool, and then continues extremely severe for an hour or longer;—that sitting is very uncomfortable, unless the body rests on one hip, so as to protect the anus from pressure,—and that there is an unpleasant sensation of fulness in the perineum, with heat in the urethra, frequent desire to make water, or other symptoms of irritable bladder. These complaints are not always equally severe, and often become greatly aggravated, from time to time, with more or less complete remissions, which are not unfrequently preceded by discharges of blood or matter from the rectum. The anus, instead of presenting its ordinary conical appearance, looks flat when examined, and hardly presents any trace of the orifice, owing to the inordinate contraction of the external sphincter muscle. If the finger be introduced, which is not accomplished without great pain and difficulty, every attempt to examine the gut causing excessive distress, not only at the time, but for hours afterwards, it feels much more strongly compressed than usual. And when the nates are held aside, so as to bring the lining membrane of the anus into view, one or more ulcerated fissures are occasionally observed between its folds.

This affection occurs in every rank of life, but is almost entirely confined to the male sex. From not being attended with any obvious alteration of structure, it is often considered imaginary, and treated merely as a nervous complaint. It has only of late years attracted the attention of the profession, and is yet far from being familiarly known to practitioners in general. Boyer has given an excellent description of the disease, under the title of Fissure of the Anus, believing that the excessive contraction of the sphincter depended upon the irritation of the ulcerated chops, which he thus designated. That these two morbid affections frequently exist together there can be no doubt. But that the spasmodic stricture is of secondary origin, and dependent upon the other, is not reconcilable with the facts presented in practice. In a considerable proportion of cases, I have found the sphincter firmly contracted, without any perceptible fissure or abrasion of the surface. And I have also, though more rarely, met with fissures producing great uneasiness to the patient, but not accompanied with spasmodic stricture of the anus." 135.

It will be observed that Mr. Syme has in some measure mixed up the two affections—fissure of the anus, and spasmodic contraction of the sphincter. They may co-exist, or they may not; and while their occasional co-existence should be noticed, their individuality should be made, as Dr. Bushe has made it, a subject of special consideration. We have seen many instances of spasmodic contraction of the sphincter unaccompanied with fissures, or with any other appreciable alteration of the gut.

Causes. Mr. Syme observes that it is very difficult to explain the cause or origin of this complaint. Its nature leads to the suspicion of some chronic excitement or irritation of the parts concerned, or those in their neighbourhood. Anxiety and distress of mind have evidently a powerful influence in confirming and aggravating its symptoms, and may not improbably also occasion its commencement. General irritability of the system may also constitute a predisposition to its production. And every thing that tends to irritate the rectum is of course apt to increase the patient's sufferings. Thus, introducing the finger or foreign bodies of any kind within the anus—forcibly expelling indurated matters from the bowels,—using stimulating articles of food or drink,—and remaining long in a sitting posture, are observed to be hurtful.

So far as we have seen, the affection has occurred in persons of a nervous and irritable habit, and has, apparently, been traceable either to costiveness of bowels or to irritation of the genito-urinary organs.

Treatment. Mr. Syme has only one remedy to propose, or, at all events, he only proposes one—division of the sphincter.

> "In the treatment of this spasmodic stricture, it has been found that the most effectual, if indeed not the only means of affording relief, consists in making an incision through the constricted parts. Boyer recommended this operation as essential for the cure of fissures at the verge of the anus, which he considered the cause of the contraction. And though his theory in this respect seems questionable, the advantage of the practice cannot be disputed. But the good effects of an incision are no less remarkable when there is merely contraction without fissure; and therefore, in a practical point of view, it is of little consequence how the two affections are supposed to be connected.
>
> Boyer believed that it was necessary to cut through the whole thickness of the sphincter; and instructions for performing the operation to this extent have been given by many later writers. From my own experience, however, I am satisfied that it is not necessary to divide more than the external sphincter, or merely a portion of it, together with the lining membrane of the anus and subjacent cellular substance. The most convenient instrument for the purpose is a blunt-pointed straight bistoury, which may be guided on the finger with a sawing motion to the requisite depth. The incision should be made towards the side of the gut, and through one of the fissures, if there be any present. A piece of dry lint is the only dressing required after the operation; and the wound may be treated subsequently as if it had been made for a *fistula in ano.*" 137.

No doubt in extreme cases, division of the sphincter is the only remedy of permanent utility. But certainly there are some instances of spasmodic contraction of the sphincter, for which no such operation is requisite. In three instances, we have cured the complaint by hip-baths—suppositories of belladonna and opium—gentle laxatives, such as castor-oil with tincture of henbane, or with laudanum—the horizontal posture—and a regulated diet.

Dr. Bushe relates a case which did well under mild treatment.

Case. Mr. N. a robust young man, and a high liver, consulted Dr. B with a view of obtaining relief from a forcible, painful, and, sudden contraction of the sphincter ani, which occasionally aroused him from his sleep at night, and generally lasted two or three hours. He had been subject to these attacks for eight or ten weeks, and altogether may have had a dozen seizures for which he could assign no cause. Dr. B. prescribed a vegetable diet, exercise, a warm hip-bath every other night, three grains of blue-pill with one of ipecacuanha at bed time, and a tea-spoonful of Epsom salts in two ounces of quassia tea, on the following morning. Under this treatment he soon recovered, and has not had a return of the disease.

In another case, we are not told that treatment was of service, but the case itself is interesting.

Case. Dr. ——, an eminent physician in New York, exceedingly muscular, of a nervous temperament, and very subject to mental depression, in-

informed Dr. B. a short time since that, for seven years past he has been seized, while in his cabriolet, about every three months, with violent contraction of the anus, attended with almost insupportable suffering, which however, soon subsided; that he was occasionally attacked during the night with paroxysms of much longer duration, but of a less distressing character; and that his fæces, when solid, were of smaller dimensions than natural.

The following cases were not relieved without division of the Sphincter.

Case.—In November, 1829, Dr. Bushe was called to see Mrs. Q., who was labouring under what she had been informed was stricture of the rectum. She informed him that in April she had a diarrhœa, after which her bowels became constipated, and a train of symptoms exactly similar to that mentioned in the chapter on fissure set in, save that the fæces were neither streaked with blood nor matter. She had become emaciated, restless, feverish, and depressed in mind, with a firm conviction that her end was drawing near. On examination, Dr. B. could not discover a fissure, nor that any one point was more tender than another; but the anus was closed so firmly that he could only enter his finger with difficulty. He prescribed a light nutritious diet, hip-baths daily, a table-spoonful of castor oil every morning, and the introduction of meshes of lint, besmeared with one part of the extract of belladona, and seven of lard. As she did not improve under this course, he substituted the bougie for the lint; but so painful did this remedy prove, that he had to abandon it. Then, he divided the sphincture as in fissure, the result of which was a rapid cure.

The last case of simple spasmodic contraction of the sphincter which we shall extract, is related by Mr. Syme.

Case.—"I was asked," says Mr. S, "to see a gentleman about sixty years of age, who stated that, a few weeks before, after sitting out a long debate in the House of Commons, he had felt extreme difficulty in evacuating the bowels, having previously for several years experienced more or less uneasiness from this source; that he had consulted a physician and surgeon in London, who prescribed laxatives without affording relief; and that his complaint had continued so as at length to confine him to bed. I proposed an enema, which was at once objected to, on the ground that the anus would not admit the smallest-sized tube. Suspicion being thus excited, the anus was examined, and found to present the characteristic features of spasmodic stricture. Having explained my views of the case, I gently insinuated the narrow sheath of a bistoury caché which I happened to have with me, and then expanding the blade, withdrew it so as to make an incision at one side of the orifice. A copious stool immediately followed, and the patient was at once completely relieved from his complaint," 138.

B. *Spasmodic Contraction of the Sphincter Ani, with Affection of the Genito-Urinary Organs.*

On this Mr. Syme makes no observations, but Dr. Bushe relates several interesting cases.

"Mr. O., a grocer, twenty-eight years of age, robust and of good habits, in 1830, being about to enter into the matrimonial state, consulted me for an affection of the urinary organs, which, from his account, I took to be stone in the bladder. I therefore sounded him very cautiously, but without being able to find a calculus. As he complained of spasmodic pain in the lower extremity of the rectum, especially when the urinary symptoms were severe and for some time after stool, I proceeded to examine this intestine, when I found the sphincter firmly contracted; however, all the parts in this region were perfectly healthy. The pain resulting from the examination of both these organs was very distressing, though the greatest possible gentleness was observed. He took pills of henbane valerian and white oxide of zinc, according to the formula of Meglin, and inserted suppositories of opium and belladonna at bed-time, while his bowels were kept easy with lenitive electuary or oil, and I injected his bladder daily with a solution of gum arabic and opium. His improvement was very slow, and as I found his urine to be surcharged with lithic acid, I put him upon vegetable food, ordered soda in sufficient quantity to correct the acidity of his urine, and a warm bath daily. By pursuing this course steadily for a few months, wearing flannel next his skin, and sedulously avoiding cold, he entirely recovered. then married, and since has had no return of the disease." 121.

It is evident that the symptoms in this instance, depended on an acid condition of the urine, and on that irritability of the bladder induced by it.

Case 2.—In 1831, Dr. B. was called to Mr. M., who for five years had been afflicted with symptoms of stone, and was repeatedly sounded, both in this country and in Europe, by distinguished surgeons. When Dr. B. saw him, in addition to the ordinary symptoms of stone, he had close and painful contraction of the sphincter ani; which he informed Dr. B. had only set in within six months, and occasionally was almost insupportable. His urine was loaded with acid, and deposited much mucus. Being a man of fashion, he was frequently exposed at night to cold air, from which he suffered dreadfully; indeed, if from missing his carriage, he was compelled to walk home at night, he never failed to have a marked change for the worse in all his symptoms. For some time he took the pills of Meglin without any advantage. Dr. B. then injected a solution of opium and gum water into the bladder, and ordered a liniment containing the extract of belladonna to be rubbed over the pubes and perineum. This plan of treatment being no more efficacious than the first, he consented to try the course which Dr. B. first recommended, viz: Confinement to the house except when the thermometer was above 60°, vegetable diet, flannel next the skin, warm baths, lenitive electuary or oil when the bowels were out of order, soda to neutralize the acid state of the urine, and an infusion of buchu as long as a mucous sediment was deposited by the urine. By following up this course for about nine months, he entirely recovered.

Case 3.—Mr. A. applied to Dr. Bushe, on account of a hydro-sarcocele. Remedies which we need not particularize, were ordered for this complaint. As they were not productive of the benefit desired, Dr. Bushe examined the urethra. While passing a steel sound in the most gentle manner, though a very reasonable person, he screamed violently, and the spasm of the canal was so great, that he could not pass the instrument into the bladder. Dr. B. ordered him a warm hip-bath, and an ounce of castor oil, with twenty-five drops of laudanum. As no bad symptoms followed this attempt to introduce the sound, he made three more essays, on alternate days, with no better result, the same irritation being manifested on each occasion. In the evening of the last day, on which he endeavoured to pass the instrument, he sent for

Dr. B., complaining of excessive irritation of the bladder. Dr. B. ordered warm bathing, marsh-mallows syrup with water, and a dose of morphine. He soon obtained relief; however, on the following day, he had a similar attack, which yielded to the same means, but returned at midnight. In his distress, he had a carriage called, and drove to Dr. B.'s house, complaining dreadfully. Dr. B. recommended him to repeat the bathing, to continue the marsh-mallows syrup with water, and to take, according to circumstances, one or two enemata, composed of four ounces of the mucilage of starch, and forty drops of laudanum. At nine o'clock in the morning he wrote Dr. B. a note, beseeching his attendance, as he suffering was dreadful. When Dr. B. arrived, he found him moaning, and the tears flowing down his cheeks. He said that a short time after taking the injection, he was seized with violent pain and contraction of the anus, which subsided; but returned every ten or twenty minutes. The vesical pain had continued, but was mild when compared with the other. Dr. B. now ordered him a linament containing the extract of belladonna, warm hip bathing, mustard cataplasms to the inside of the thighs, and a full dose of morphine. He experienced no relief; therefore, it occurred to Dr. B. that the better plan would be to revulse on his bowels, with wich view, Dr. B. prescribed for him the pills of calomel and cathartic extract, and afterwards a solution of Epsom salt in an infusion of senna. Suffice it to say, that his symptoms soon yielded to this plan of treatment.

Dr. Bushe relates several other instances of a similar description. In one, the warm hip-bath, soda, and blue pill with cathartic extract, removed the complaint in about three weeks. In another, the attacks, which were occasional, could always be prevented by an emollient injection, succeeded by a warm hip-bath, an a enema of starch and laudanum. In another case, in which there was retention of urine, the sphincter ani was so contracted that Dr. Bushe was obliged to divide it, before he could puncture the bladder.

On the whole, it must be evident, that Mr. Syme's unconditional opinion on the necessity of dividing the sphincter in the case of spasmodic contraction is too strong. We would say that in each case the cause should be investigated, and if possible, removed. If that is not possible, or if its removal is not sufficient for the cure of the complaint, then the spincter will require division. But it would be subjecting some patients to a disagreeable operation unnecessarily, to make it a rule to divide the sphincter in all instances.

X. ULCERATION OF THE RECTUM.

This forms the subject of the twelth chapter of Dr. Bushe's work, but is not treated in Mr. Syme's.

In this chapter, Dr. Bushe confines himself to the ulceration of the rectum, arising from inflammation, and to that dependent on entanglement of fæces in the lacunæ. In subsequent chapters, he treats of ulceration produced by the venereal poison and by malignant deposits.

In this, says Dr. Bushe, as in similar affections of other organs, there are three circumstances to be considered: firstly, the influence of the cause which produces it; secondly, the state of the constitution; and, thirdly, the situation it occupies. Thus, when it arises from the entanglement of fæces in the lacunæ, it is of moderate size, somewhat circular, deep, and surmounted by an indurated brim. In a sound constitution, though sometimes pretty extensive, it is generally superficial and withont induration. In unhealthy persons it becomes inactive, and sometimes phagedenic. Finally, when within the limits of the sphincters, it is exquisitely painful, and the system sympathises as in fissure.

The symptoms of this disease, he continues, are pain, a sense of weight in the sacral region extending to the loins, vesical irritation, tenesmus, the discharge of a thin bloody fetid pus from the anus, besmearing of the fæces with the same, smarting, and even actue pain in the rectum, invariably increased by defecation; and, when the ulceration extends low down, spasm of the sphincters with the other concomitants mentioned under the head of fissure.

If the finger be introduced, the ulcerated surface may be detected by its roughness: but the better plan is to dilate the anus with the speculum, when the situation, extent, form and character of the disease can be easily determined. In many cases, however, nothing more will be necessary than to separate the buttocks, and press apart the edges of the anus with the fingers.

Mr. Colles recommends a blunt polished gorget, with its concavity looking towards the seat of the disease, to be passed upon the finger into the rectum; then by everting the anus as much as we can, we shall obtain a full view of the ulcer by the light reflected from the gorget.

Dr. Bushe points out succinctly the reasons why ulceration of the rectum is difficult to heal: firstly, because, from the absence of valves in the portal system, and the depending situation of the hæmorrhoidal veins, they are loaded with blood, a condition which is still further increased by the accumulation of fæces in the lower bowels and the action of the sphincters; secondly, because the passage of the fæces contuses, and stretches the ulcerated surface: thirdly, because, if the ulcerated be within the limits of the sphincter, it is not only unduly compressed, but puckered; fourthly, because the plicated condition of the mucous membrane, and the action of the sphincters, prevent the proper adjustment of suitable applications: and fifthly, because we are unable to make pressure, a most efficient remedy in similar diseases of other parts.

Here we must stop. We think our readers will agree with us that Dr. Bushe's work contains much useful information. Of Mr. Syme's they can yet form no opinion. The limited range of subjects embraced by it has not admitted of our doing more than notice his observations on one particular disorder—spasmodic contraction of the sphincter ani.

In our next we shall return to our two authors, and to the diseases of the rectum. We trust that we shall increase our readers' acquaintance with both.

DISEASES OF THE CHEST AND WINDPIPE.

I. DISEASES OF THE CHEST.

A TREATISE ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE CHEST. PART I. DISEASES OF THE LUNG AND WINDPIPE. BY *William Stokes*, M. D. M. R. I. A., Dublin: Hodges and Smith.

On glancing at the first page of the Preface of this book we were not a little gratified to find the author state that, in the composition of it, he has made it a principal object to connect the study of physical signs with that of symptoms, "so as to illustrate thier mutual bearing on diagnosis, and remove that unjust opprobrium thrown on the advocates of auscultation, that they neglect the study of symptoms." That there may be some ground for this charge of a neglect of symptoms by some persons professing themselves followers of the modern pathology, may be true. It requires some caution to avoid extremes. In endeavouring to steer clear of the Scylla of mere symptomatology on the one hand, some wrecks may have taken blace by striking against the Charybdis of sheer physical semeiology on the other.

Those, however, who make such a charge of neglect of symptoms against the educated followers of modern pathology, we refer to the writings of the Choryphæus of modern pathology, Andral. They will there find that rational symptomatology has been any thing but neglected. There the study of symptoms will be found to have received ample attention, and to have been pursued with zealous care; in that way, however, in which alone advantage could be rationally expected from it, namely, in connexion with physical signs, wherever this was possible. The individuals, however, who make these charges against the cultivators of modern pathology, and those particularly who make a practice of abusing one implement of it, we mean the stethoscope, are irreclaimable. They are either too old, too lazy, or too stupid to learn. Happily, however, for the rising generation, their ranks are thinning every day—for this a variety of causes may be assigned. Some of them have gone the way of all flesh. Some, convinced of the utility of stethoscopic investigation, have actually and in right down earnest set themselves down, and learned the use of the instrument—while others, again, without the industry, or probably without the physical power to learn it, affect to understand it, and really carry it about with them, though we know some of them, who would just derive as much benefit from applying it to the seat of honour as to the chest. Such, however, is the effect of the enlightened state of public opinion of the present day, which will no longer tolerate the mere symptomatic doctor of the last century. Something more than an acquaintance with a Latin and Greek Vocabulary, some other badge of professional knowledge besides the wig and gold-headed cane, is now required from the medical candidate for public confidence. We would venture a small wager that that so much abused, insignificant-looking little instrument, the stethoscope, would prove a surer passport in the hands of a young medical aspirant for public employment, and a more certain means of obtaining public confidence as a physician, than the gold-headed cane of Sydenham, Meade, or of any other of the medical sages of former times.

But to come to more immediate business. Our author devotes the first section of his book to the exposition of the *General Principles of the Diagnosis of Thoracic Disease.* There is so much of force and truth in the following remark of Dr. Stokes, that we cannot but cite it in his own words:

> "It must be obvious, that in the detection of the nature and seat of any disease, the more we can combine the observation of physical signs with functional symptoms, the greater will be the accuracy of our diagnosis. Now, if we compare together the diseases of the three great splanchnic cavities, we find that those in which this desirable combination is most attainable are, first, those of the chest; next, the abdomen; and lastly, the affections of the brain and spinal marrow. Accordingly, if we compare the diseases of these systems with respect to the perfection of diagnosis, we find the order to be, first, the respiratory; next the abdominal; and last the cerebro-spinal, or that in which the combination is least applicable." 3.

Our author now shows that the contents of the chest in the healthy and diseased state are most favorably circumstanced for the multiplication and distinctness of physical signs; to which circumstance he traces the great improvements by which the present time is distinguished in the diagnosis and consequently the treatment of thoracic disease. This he proves from the consideration of the anatomical structure, and also the functions of the thoracic organs, as compared with the contents of the other cavities. Among the other cogent and unanswerable arguments urged by our author in support of the advantage of physical examination, he appeals to the frequency of the latent affections of the lung, as showing the necessity of this mode of investigation. The lung, we know, may be hepatized without cough, dyspnœa, acceleration of breathing, pain, expectoration, or fever. But this change cannot occur without the existence of physical signs sufficient for its detection.

> "It is plain," says the author, "that the study of symptoms alone cannot lead to accurate distinction of chest disease; the same remark is applicable to that of the physical signs unconnected with symptoms. Symptoms are insufficient without signs, and signs insufficient without a careful comparison of these with the symptoms. There is no such thing as a perfectly pathognomonic symptom or sign of any such thoracic disease. We must combine the lights drawn from the careful study of symptoms, both past and present, with the observation of physical signs, for by this mode alone, can we hope to arrive at an accurate result. Great injury has been done to the cause of physical diagnosis by some inexperienced men, who, departing from the principles of its illustrious founder, have neglected too much the study of symptoms."

After enumerating the sources of physical diagnosis, namely—1st. *Signs* purely acoustic, including the results of percussion and auscultation. 2nd. *Signs* derived from the alterations of shape and volume of the thorax. 3rd. *Signs* referrible to the sense of touch. 4th. *Signs* derived from inspecting the motions of the thorax during respiration. 5th. *Signs* derived from the inspection of the thorax with reference to the action of the heart and great vessels. 6th. *Signs* derived from the existence of an external collateral circulation. 7th. *Signs* derived from the observation of the displacement of the thoracic or abdominal viscera. He next proceeds to elucidate the principle of *comparison.*

He adduces the following as an important and common illustration of the value of comparison.

> "A patient presents the symptoms of cough, muco-purulent expectoration, accelerated breathing and pulse, emaciation, and hectic. Under these circumstances, we detect a mucous rattle in the subclavicular region; a sign which, when properly estimated and corrected, may lead to an almost positive diagnosis of phthisis, with softening of the tubercles. Now, if, in a patient labouring under the above symptoms, we were to conclude from the mere existence of this sign in this situation, that the case was really phthisis, we might fall into error, for a comparative examination of the different portions of the chest might shew, that the rule was universal; a discovery, which would greatly diminish its value as a sign of phthisis, and leave a probability that the case was one of bronchitis, with copious effusions into the smaller tubes. In such a case the value of comparison is obvious."
>
> "On the other hand, the existence of râle, either under one or both clavicles, while the inferior portions remained free, would, when occurring with the symptoms described, be a most important diagnostic of phthisis."

Our author having in the first section considered the general principles to be observed in the diagnosis of thoracic disease, now proceeds to treat of the individual diseases of the lung, and commences with *bronchitis*, the study of which is peculiarly calculated to furnish us with a key to thoracic pathology, as in a great number of pulmonary, and even cardiac diseases, the inflammation of the mucous membrane of the lung seems to be the first link in the chain of morbid action; a circumstance illustrative of the proposition of Broussais, that the various external morbid influences which affect the system are first exercised on one of the surfaces of relation, viz. the skin, the bronchial, and the gastro-intestinal mucous membrane. The importance of studying bronchial inflammation our author endeavours to prove by showing that many examples of diseases, which have received a separate name, have commenced with bronchitis, or are complicated with it; that it is also a prominent feature in certain nervous affections of the lung, that it may occasion dilatation of the air-cells and tubes, and pulmonary emphysema, and that many cases of phthisis also commence by it. The importance of this study is still further established by the circumstance that bronchitis is the most common result of the sympathetic irritations of the lung, that it forms a most important part of the phenomena of several of the exanthemata, whilst in common continued fever it is extremely frequent, and too often the direct cause of a fatal termination.

Having shewn that all ages are liable to this disease, that it is sometimes even congenital, he next alludes to the researches of Dr. Joerg, of Leipsig, on a condition of the lung which that physician states may be induced by either a too rapid, or a too slow delivery; under which circumstances a portion of the lung remains uninflated, which occasions imperfect respiration, and various pulmonary diseases. In a difficult delivery, he states, that the infant, from the compression of the brain, respires imperfectly, and consequently but partially expands its lungs; while in the too speedy delivery, in consequence of its short duration, and the inferior degree of compression of the placenta, the foramen ovale, according to him, is not closed, which diminishes the necessity for respiration.

> "Under the circumstances above-mentioned," says Dr. Joerg, "we have often seen infants suddenly seized with illness, and sometimes die, in spite of every exertion made to save them, before the real cause of the attack, and the proper method of treatment, were discovered; and on examination the follow-

ing appearances were observed, arising all from the same causes, though differing greatly among themselves in many respects.

In every case in which we made a *post-mortem* examination for several years past, a portion only of the lungs, from the greater half to merely an eighth or tenth part, was found filled with air, and of a red colour; while the remaining portion continued in the same state in which it had been in the fœtus, and was of a silver colour. When the infant had died soon after birth, the condensed portion was susceptible of inflation; but where death did not occur till several weeks after that event, it was found carnified and incapable of being inflated; sometimes the partition between the healthy and diseased portion was in a state of inflammation, and the latter contained vomicæ: the bronchi, too, were often inflamed and filled with mucus. The great contrast between the bright red of the healthy, and the liver-brown of the diseased portion, struck the eye immediately on opening the thorax. In most cases the foramen oval was still open, and there were very firm polypi in the heart and large vessels. The brain was frequently gorged with blood, which was sometimes even effused between its membrane and over its surface: it also occasionally contained abscesses corresponding to others on the cranium, or fontanelle, that had been produced by the use of instruments, or by violent pressure against the pelvis during delivery. In the rest of the body there was no particular morbid phenomenon constantly present; however, in the greater number of cases, the skin, particularly on the face, had a blueish cast: while in some it was withered and emaciated, and the whole body, especially the intestines, pale and bloodless."

Dr. Joerg feels warranted by his experience and observation in describing the nature and terminations of this disease in the following manner. The following extract from this physician's work has been presented to us by the author:—

"The solidification, or continuation in the fœtal condition of a greater or less portion of the lungs, so that during inspiration their substance cannot be penetrated by the air. The blood, being still more incapable of penetrating, cannot be supplied with oxygen, and must consequently continue venous, and produce obstructions and dangerous congestions; while at the same time, from its being unable to afford the stimulus requisite to the system for the continuation of its functions, an atonic senile condition obtains, attended with the utmost weakness, and complete atrophy, and terminating in death in hectic fever. The general morbid condition is, consequemtly, difficulty of respiration, and impeded circulation, producing dangerous and even fatal congestions. Its terminations are—1st, recovery; 2d, secondary diseases; 3d, death.

I. Recovery ensues when the efforts of the infant to inspire are assisted by proper treatment, and the subsequent symptoms properly managed.

II. *Secondary Diseases.*—(*a*) Obstruction of the lungs, inasmuch as a portion of them remains condensed, which, without actually producing death, is very oppressive and dangerous: (*b*) chronic cyanosis, the foramen ovale continuing open, and the infant being liable to constant suffering.

III. *Death.* (*a*) From apoplexy; in consequence of obstruction and congestion: (*b*) from suffocative catarrh, when the feeble respiration is not able to expel the mucus secreted in the bronchi, and the violent efforts at full inspiration produce bronchitis, and an over-abundant secretion of mucus, which the patient has not strength to get rid of: (*c*) from fever, the result of bronchitis: (*d*) from atrophy; the production of animal heat being prevented by the deficiency of oxygen, and the whole system paralysed by the want of its requisite stimulus.

SYMPTOMS. When the infant comes into the world, the head is either found greatly swollen, (in which case abscesses often form in the part that has suffered from pressure, and inflammation or violent congestion of the brain ensues,) or else, though quite uninjured, and the delivery having been rapid and easy, it cries but feebly, breathes very short, and exerts the muscles of the thorax greatly; it is presently attacked with a faintness, and if it had been capable of drinking previously, now loses that power, the voice becomes hoarse and weak, and scarcely audible. Stertor and convulsion soon follow, the little patient becomes quite blue, the eye-balls turn, and the respiration remits, sometimes for so long as five minutes, till the scene at last closes with death. Should the illness continue for some days or weeks, s little short cough, the most certain sign of violent bronchitis, comes on; together with total weakness, atrophy, and hectic fever; and the child, at the very latest, four or five weeks after birth, sinks under a violent attack of cyanosis, or bronchitis, or from the effects of the fever and atrophy."

This non-expansion of a portion of the lung, was not, we believe, noticed by any writer before Dr. Joerg, as the cause of bronchitis in the infant. It serves to afford an explanation of those cases in youth and adult age, in which the patient is represented to have had a cough from his birth; many of these cases terminate in dilation of the air-cells and emphysema of the lung.

Another cause of bronchial inflammation in the infant after birth is the period of the first dentition—in this case, however, our author very properly remarks that it is rather the result of the general constitutional disturbance, than a primary disease. The presence of this affection is easily recognized; it is generally marked by great irritability, hurried breathing, some wheezing in the throat, and acceleration of the pulse. When the attack is more severe, there is fever and cough, dilatation of the nares during inspiration, and obvious difficulty in sucking. The mouth also is hot, the gums dry and swollen, and one or two teeth are observed to be coming forward. These symptoms continue from four to five days, and often subside rapidly on the appearance of a tooth.

Our author now proceeds to examine the occurrence of bronchitis in the adult. The cases of bronchitis he divides into the primary, secondary, and complicated forms: the primary, those in which the first morbid influence seems to be exercised on the respiratory mucous membrane, and in which the fever, if it exists, may be considered as purely symptomatic: in the secondary, on the other hand, there has been a pre-existing disease elsewhere, which may be either the irritation of another organ, which acts by sympathy on the lung, or that general morbid state commonly called essential fever. By the complicated form our author means the bronchial inflammation which accompanies other diseases of the lung, such as peumonia, pleurisy, pulmonary apoplexy, tubercle, &c.

ACUTE PRIMARY BRONCHITIS. This affection is met with under various conditions. It not unfrequently occurs as a mild, and often a pyrexial disease, in which the irritation seems to be consecutive to an affection of the lining membrane of the nares and throat. One of the most curious symptoms connected with this form of the disease is the tickling sensation perceived in the trachea, which commonly precedes, and seems to be the cause of cough, and which is referred either to the situation of the bifurcation of the trachea, or the portion of the windpipe immediately above it.

From a consideration of the symptoms and the stethoscopic phenomena in this disease, our author is inclined to think, that in the majority of cases the smaller bronchial ramifications are unaffected—fever is either entirely absent, or very slight—there is never any perceptible lividity of countenance —there is scarcely ever any dropsical effusions, a circumstance proving that the pulmonary circulation is not seriously interfered with.

When the disease however occurs in the more severe form, all these symptoms are aggravated; there may be high fever, great dyspnœa, difficult expectoration, the mucus being sometimes tinged with blood; cerebral and abdominal congestions, with dropsical effusions; pneumonia, and in some cases, pleuritis.

After the acute stage has thus continued for a period, which is very variable, the second stage sets in, which is marked by a change in the character of the fever, the inflammatory passing into the hectic type; the countenance becoming pale and shrunk, and the pulse feeble and rapid. The patient perspires; the cough is frequent though less distressing, and is followed by copious expectoration of concocted mucus or muco-purulent matter, and the breathing, though hurried, is generally less laborious than in the acute stage. A person unacquainted with the history of the case, would suppose the patient to be in an advanced stage of suppurative phthisis. Often, as our author observes, has the recovery of such an individual been set down as an instance of the cure of confirmed phthisis.

The appearance of the expectoration in acute bronchitis he thus describes: "In the earlier forms the secretion is scanty, and consisting of a clear gelatinous mucus, combined with a frothy serum: according as the disease advances this secretion becomes more opaque, more abundant, and less tenacious; and at that period when the inflammatory fever ceases, and is either succeeded by an apyrexial state, or by a hectic condition, we observe a remarkable change in its character. It becomes thick and has considerable consistence, or it may pass into the muco-puriform character, when we observe it in masses of a greenish-yellow colour, quite opaque, and though somewhat viscid, yet flowing together." After observing on the comparative rarity of the more violent primary bronchitis in adults, though a common occurrence in children, whilst the reverse is true with respect to the chronic forms of the disease, and then remarking the various terminations of the disease either in resolution, or an increasing chronic discharge from the bronchial membrane, accompanied or not by hectic, in death occasioned by a sudden obstruction of a large tube, in the development of tubercle, in pneumonia, in death owing to an excessive secretion into the bronchial tubes, or in consequence of hydrothorax, he passes on to the consideration of—

CHRONIC PRIMARY BRONCHITIS—of which he says we may get a good idea by considering it a species of gleet of the mucous membrane, in which the inflammatory irritation, if it exists, is in many cases not so severe as to act sympathetically on the system—the various functions may go on during its presence; during the Summer season there is more or less complete remission of the symptoms, while on the approach of Winter the cough and expectoration become more troublesome. In the course of some years the duration of the remissions becomes less, their completeness diminishes, and a permanent irritation and flux are established; the result of which may be dilatation of the tubes, emphysema, which affections may be accompanied with phthisis, disease of heart, hydrothorax, or general dropsy. When the flux is excessive, a great degree of emaciation is often observed, which may excite a suspicion that the patient is labouring under tubercular phthisis; the healthy state, however, of the circulating and digestive systems will serve to assist in the diagnosis. Our author here observes that the complication of chronic bronchitis with tubercular phthisis is much more common than is generally supposed, more particularly in individuals who have passed the meridian of life; the transition of the one affection into the other being marked by a general though gradual failure of the powers of life, by acceleration of the pulse, and a slow, though decided, emaciation of the patient. Under such circumstances a careful examination will detect some solidity in the upper portion of one lung.

Our author next points out the importance of attending to the secretions from the bronchial mucous membrane in relation to the symptoms, and studying their changes in connexion with the history of the case. These secretions from the bronchial membrane, when in a state of irritation, he divides as follows:—

First.—Transparent mucous secretions.
Second. Opaque mucous, or albuminous secretions.
  a.—Amorphous.
  b.—Moulded to the form of the tubes.
Third.—Muco-puriform secretions.
Fourth.—Puriform secretions.
Fifth.—Serous secretions.

On these various forms of secretion the author makes some valuable practical remarks, some of which we shall present to our readers in as succinct a form as the importance of the subject will allow;—and first of the—

Transparent Mucous Secretions. This form is most commonly met in the earlier stages of acute bronchitis; it is generally preceded either by a dry cough, or by a cough with a serous expectoration. Both the quantity and tenacity of this secretion may vary in different cases: the latter quality is generally proportioned to the violence of the irritation. Transparent and tenacious mucus, however, is observed in other cases of bronchitis—it is sometimes seen to replace the muco-puriform secretion, which occasionally loses both its diffluent character and its opacity, and becomes difficult of expulsion. This change is generally accompanied with general constitutional disturbance. Dr. Stokes here is inclined to connect in some way the occurrence of this transparent and viscid secretion with a state of irritation, wherein the secretion does not relieve the morbid action. "We find," he says, "that the sooner the opaque sputa appear, the sooner shall we observe the convalescence of the patient; and that in those cases where this salutary change is delayed, the sufferings and danger are proportionally increased. How commonly do we observe this in phthisis, in which the bronchial irritation seems to continue in its first stage for an indefinite length of time, and in which there is every indication of a local but unrelaxed irritation of the lung: and in the cases of Laennec's emphysema, we may see other instances of a bronchial disease, which has not been relieved by the more elaborated secretion, and which consequently has continued so as to disorganize the lung."

Opaque Mucous, or Albuminous Secretions. With respect to these, they are generally preceded by the formation of the transparent secretion, occurring with, or without a symptomatic fever.

Of this species of expectoration our author notices two kinds, 1st. the amorphous variety, and next that in which the secreted matter adapts itself to the form of the bronchial tubes, so as to produce casts of the air-passages.

> "In their ordinary form we find these sputa to consist of shapeless masses of a dull white colour, with a slight yellow tinge. These masses may be expectorated with scarcely any accompanying serous fluid, when they unite, more or less, so as to form a semifluid adhesive mass. In other cases, however, a considerable quantity of serous fluid is expelled along with them, when we observe them more frothy; and presenting the appearance of rounded sputa, floating in a nearly transparent fluid, of much less tenacity, and containing a few albuminous striæ, not unlike fragments of vermicelli."

With respect to the consistent secretion which is moulded to the form of the bronchial tube he observes that this formation of inspissated mucus, may be found either as a very circumscribed or a more general lesion. In the former of these a plug is formed, which by obstructing one of the larger tubes, may bring on violent dyspnœa, or even death; while in the second, cylinders of this substance, corresponding to the form of the bronchial tree, are found to follow its ramifications nearly as far as it is possible to trace the bronchial tube.

We next come to the *muco-puriform*, and *puriform secretions.* Our author considers them together; the former is of much more frequent occurrence than the latter, a completely purulent expectoration being an unusual occurrence in any pulmonary disease, even in those in which ulceration or suppuration has taken place. It is occasionally observed in the advanced stage of phthisis and pneumonia. If the bronchitis in its earlier stages has been neglected or treated with timidity, the muco-purulent secretion in the advanced stages will be abundant, and may produce death by a mechanical obstruction.

In order, says our author, that the change from the mucous to the muco-puriform secretion may be considered a favourable indication, it is necessary that certain circumstances should attend it. These are, that the expectoration shall become easier, the pulse softer and slower, and the fever diminishing. With respect to the physical signs, the muco-crepitating râle becomes larger, the respiration returning from above downwards, the action of the heart becomes quiet, and the sound on percussion clear, even in the postero-inferior portions of the lung.

Serous Secretions. This form of secretion is met with in a great number of cases of bronchitis and phthisis, even where other and very different secretions are taking place from the lung. It is observed in the earlier stages of bronchial inflammation, before much mucus has been formed, and again in the advanced stages, when an opaque or muco-purulent matter is abundantly secreted, and lastly it occurs as the principal secretion, as is seen in many cases of *humid asthma,* in which it may be formed in great quantity. Andral mentions a case in which a sudden and very copious secretion of serous fluid from the lung coincided with the disappearance of an hydrothorax. Our author next proceeds to consider the

PHYSICAL SIGNS OF BRONCHITIS, and first of the primary bronchitis, in its acute and chronic forms. These signs he considers in the following order:

First. The results of percussion.
Second. Signs discoverable by the sense of touch.
Third. Signs discoverable by auscultation.

With respect to the first class, namely those derived from percussion, he observes that in general there is no perceptible change in the clearness of the sound on percussing the thorax, there being but one case in which simple bronchitis is ever accompanied with decided dulness, namely, that in which a vast secretion of mucus, or muco-purulent fluid exists in the bronchial tubes—in those cases also wherein the areolar structure of the lung is the seat of disease, such as œdema, pneumonia, or tubercle, there is some dulness, the amount and sight of which vary according to circumstances.

Dr. Stokes proposes a very ingenious mode of accounting for the absence of dulness in bronchitis, which he offers however merely as a conjecture; namely that pending the turgescence of the bronchial membrane, some dilatation of the air-cells takes place, so that the air thus accumulated compensates for that which has been displaced by the turgid state of the mucous membrane. Still, though percussion may give no direct result in bronchitis, its employment may be attended with important advantages in the particular diagnosis.

"Thus," says our author, "suppose that after the existence for three or four days, of fever, cough, hurried and difficult breathing, the chest still sounds well, the great probability is that the disease is bronchitis. The patient has had an acute inflammatory affection of the lung, and but of a few days standing: this must be either bronchitis, disease of the serous membrane, or of the parenchymatous structure. Here the absence of dulness is of the greatest importance: for were it a case of pleuritic effusion, or of disease of the substance of the lung, the great probability is, that by this time a degree of dulness would be manifested: in the one case the lung would be compressed, and its place occupied by a liquid effusion: in another, more or less obliteration of the air-cells would take place, from congestion, or inflammation. *The absence then of dulness, with the existence of acute irritation of the lung, which has continued for several days, forms an important argument that the case is one of uncomplicated bronchitis.*"

Our author next insists on the insufficiency of mere symptoms independent of physical phenomena to diagnose simple bronchitis, there being a vast number of examples of disease of different kinds, in which the symptoms are only those of bronchitis, or at least may be referred to this lesion. If however, on examining any particular case of this kind, we find a dulness on percussion, we may rest satisfied that something more than bronchitis exists. Dulness of sound from a copious effusion of mucus into the tubes can occur, according to our author's experience, only in the last stages of the disease. In one case however of mere bronchial disease, namely, in dilatation of the tubes with compression of the intermediate pulmonary tissue, dulness of sound may be observed.

We derive considerable assistance in diagnosing tubercular development from knowing that in simple bronchitis there is nothing to produce dulness of sound. The value of knowing this will be obvious, when we consider the great similarity in the symptoms between tubercular phthisis and bronchitis.

With respect to the signs discoverable by the sense of touch, there is not much to be said. In many cases, particularly after the first stage of the disease, a distinct vibratory sensation may be perceived on laying the hand on the thoracic parietes, which may be detected both during inspiration and expiration, more distinctly however in the former, and more evidently in the child and the female than the adult male. This vibration is also more distinct in the middle and inferior than in the upper portion of the lung. This vibration is not heard either in pneumonia or pleuritis. In the latter affection, however, a phenomenon may occur which may be confounded with it, namely the sensation of *friction of ascent and descent*, which is perceived in certain stages of dry pleuritis—the stethoscope however, will enable the practitioner to distinguish between these, as in the majority of cases of pleuritic friction the respiratory murmur may be heard without any admixture of rhonchus.

The causes which modify the respiratory murmur in the passage of air during respiration are thus enumerated by our author:

First. The turgescence of the mucous membrane, a cause which principally affects the phenomena of the smaller tubes and air-cells.

Second. The existence of an anormal secretion into the cavity of the tube itself; and

Third. The existence of spasm, the amount of which varies in different individuals. It is these causes which form the numerous varieties and combinations of Laennec's *sonorous*, *sibilous*, and *mucous râles.* Our author states as a general rule that the modifications of sound connected with turgescence of the mucous membrane and spasm, are to be found principally in the first or dry stage, while those produced by the passage of air through fluid in the tubes, are most evident in the second or secretive stage:—and again, that in the acute stage, during ordinary respiration, the louder and more intense the râles are, the more severe is the disease. To this rule he makes one important exception first observed by him in bad catarrhal fevers, and one of great practical importance. In such cases, he says, during ordinary respiration, we may hear little or no râle, and yet the disease may be so violent as to threaten the patient's life. The reason which he assigns for this is, that the finer ramifications of the bronchial tubes are so turgid, that during ordinary respiration, the air does not enter them with sufficient force to produce a tone, while by making the patient take a forced inspiration, we are astonished at the intensity, number, and variety of the sounds produced. In such cases it generally happens, that as the patient gets better, the râle during ordinary respiration, becomes distinct and constant, an increase of râle during ordinary breathing pointing out a decrease of disease.

In some cases of chronic bronchitis attended with a muco-purulent secretion, and in which a râle exists which is almost crepitating, there may be a risk of confounding the disease with phthisis; the decided dulness however, whether general or partial, existing in phthisis will aid in the diagnosis—sometimes again a partial dulness may be met in both diseases; but here again we have a means of establishing the diagnosis; for in phthisis, even where the whole lung is tubercular, the dulness is almost always greatest in the upper parts of the lung, while in the case of bronchitis the reverse takes place, the dulness in this latter case being in the inferior lobes; which circumstance seems to be occasioned by the accumulation of mucus in the more depending portions.

The puerile respiration again may occur in both affections. When it occurs in bronchitis however, it is in the upper portions of the lung it is principally observed, whilst the reverse happens in phthisis.

An exacerbation sometimes occurs in intense bronchitis indicated by the opaque muco-puriform expectoration changing its character and becoming transparent and viscid, a change accompanied moreover with corresponding stethoscopic phenomena, the muco-crepitating râle becoming smaller and sharper and the extinction of the respiratory murmur becoming more complete. This is apt to be confounded with certain stages of pneumonia. The clearness, however, of the sound on percussion, and the absence of the bronchial respiration will assist in forming the diagnosis.

Our author now passes on to the consideration of the next physical sign accompanying bronchitis, and that is the complete suspension of the respiratory sound in certain portions of the lung. In general this phenomenon is only temporary; it may however be permanent; if the former, it will frequently disappear after a fit of coughing; which led Laennec to consider it as occasioned by the obstruction of mucus—it may however be caused by spasm. Hypertrophy of the bronchial mucous membrane also may not only modify but altogether annihilate the respiratory murmur, of which instances have been adduced by Andral and Reynaud. Our author before proceeding to some of the other varieties and results of bronchitis lays down the following propositions as containing the state of our knowledge with respect to the physical diagnosis of simple bronchitis.

"1st. That in almost all cases percussion gives no direct sign.

2d. That an accumulation of mucus in the inferior portion of the lung may give a certain degree of dulness.

3d. That in the great majority of cases in which there is a co-existence of the signs and symptoms of bronchitis with dulness, we may infer the existence of some disease, either of the parenchyma or the pleura.

4th. That conversely, the absence of dulness with the existence of irritation of the lung, gives a great probability that the case is one of simple bronchitis.

5th. That a copious effusion of muco-purulent matter may exist in the bronchial tubes, without perceptible dulness of sound on percussion.

6th. That in certain cases of bronchitis with effusion a metallic sound may be produced on percussion. This is somewhat similar to the bruit de pot fêlè of caverns, but is to be distinguished from it by the clearness of sound, its greater diffusion, and the absence of the stethoscopic signs of a cavity.

7th. That in many cases, on application of the hand, a distinct vibration is felt in accordance with the motions of respiration.

8th. That the modifications of respiration, as observed by the stethoscope in bronchitis, seem to be connected with mechanical obstruction more or less complete, and which may proceed from one or all of the following causes:—turgescence or hypertrophy of the mucous membrane, the existence of various secretions, and, lastly, the occurrence of spasm.

9th. That in the mode of occurrence of the various phenomena there are the greatest possible differences in different individuals.

10th. That as a general rule it may be stated, that the more intense the sonorous, sibilous, or mucous râles, or any combination of them, be during ordinary respiration, the more severe may the disease be considered.

11th. But that in certain cases of intense bronchitis of the minuter tubes, the sounds during ordinary respiration cease to be a measure of the intensity of disease, as they become louder during the convalescence of the patient.

12th. That in the secretive stage of bronchitis the mucous rattle may occur, on the one hand, with large and isolated bubbles, and, on the other, may pass into a râle almost crepitating, the sound on percussion still continuing clear.

13th. That in consequence of bronchial inflammation the entrance of air into a certain portion of the lung may be prevented, under which circumstances the signs are nullity of respiration, with persistence of clearness of sound.

14th. That this obstruction may result from an organic change of the mucous membrane, or from the plugging up of the tubes by their own secretion.

15th. That in the first of these cases the absence or diminution of the respiratory murmur is permanent, while in the second it may be temporary, and removable by a fit of coughing; yet even in this case the obstruction by a concrete mucus has continued from the period of its occurrence until the fatal termination.

16th. That if in a case of mucous catarrh a sudden dyspnœa supervenes, with absence or diminution of the respiratory murmur in a particular portion of the lung, this portion also preserving its clearness of sound on percussion, we may make the diagnosis of obstruction of the bronchial tube by its own secretion."

ACUTE SECONDARY BRONCHITIS. Our author having thus far considered that form of bronchial disease, in which the affection of the mucous membrane appears to be the first link in the chain of morbid action, and the fever sympathetic, next proceeds to consider the disease in its secondary form, when it seems to be the result of an influence which seems to act on the whole system, or to proceed from a sympathetic irritation, the consequence of local disease in some other system. He now proceeds to examine, first, into the bronchitis of typhus fever; next into that of the exanthematous diseases; and lastly, he makes some observations on those forms of bronchitis, which in other specific contaminations of the system, and which may be called chronic secondary catarrhs, and the sympathetic coughs arising from irritation of the digestive system.

Bronchitis of Typhus. In some cases of typhus the lungs may be severely attacked, and fatal asphyxia occasioned from excessive secretion from the bronchial membrane; this may occur under two circumstances, the one where the symptoms are manifest, the other where the disease is latent. In those cases wherein the bronchitis assumes a prominent and formidable character, we have, in addition to the other phenomena of fever, lividity of countenance, cough, hurried breathing, and expectoration—and even though these symptoms be but faintly marked, still a bronchitis may exist of the intensity and extent of which nothing but a physical examination can convince us. In the fevers of this country this bronchial affection is found to coexist with gastro-enteric inflammation—in some cases the disease predominates in the respiratory, in others in the digestive system. This predominance of disease also often alternates between the thoracic and abdominal cavities. Our author here makes a remark of great practical importance by stating, that with respect to the pathology of mucous membranes in fever, although the gastro-intestinal mucous surface may be, and often is affected, while but little, if any, disease exists in the respiratory organs; yet that the converse of this proposition is seldom true, a point of the utmost importance in practical medicine, as bearing on the application of general, local, and specific treatment. Our author now points out certain differences between the bronchitis of typhus and the primary species. The *first* and most important is the want of proportion between the intensity of the phenomena and the sufferings of the patient; the former being extreme, while the latter, at least until the last stage, are comparatively trifling. The *second* point of difference, and one closely connected with the former, is, that the intensity of the râle during ordinary breathing is, in many cases, not a measure of the violence of the inflammation or congestion of the air-tubes, as during ordinary breathing the râles may be but slight and diffused, and yet on a forced respiration they may become most intense. This Dr. Stokes explains by the great obstruction of the minute tubes coupled with the great debility of the patient. As the disease declines, we have a loud râle during ordinary respiration; the increase of râle thus indicating a decrease of the disease.

The *third* point of difference is, that the character of the râle in bronchitis accompanying typhus would incline one to conclude that the disease more especially affects the large tubes, where the lining membrane has the proper characters of a mucous structure.

Lastly, in the severe bronchitis of typhus the morbid phenomena predominate chiefly in the lower and posterior parts of the lung.

The author next proceeds to consider bronchitis in relation to the exanthematous diseases. After first insisting on these diseases being instances of specific fevers, in which the cutaneous irritation is but a single link in the chain of morbid action, and not even the first link, as the viscera, in the majority of cases, appear to be the first to suffer, he shews that the exanthemata have certain points of resemblance to typhus, namely, in the circumstance of periodicity, and in the local affections characterising them not being primary, constant, or proportioned to the general symptoms. There is however one mark of difference between the two affections, which is, that the secondary irritations in the exanthemata are more violent and more constant than in typhus, and that the inflammations accompanying them, at least in measles and scarlatina, have more of the sthenic character. Another difference, and that an anatomical one, exists; which is, that in the exanthemata there is a greater chance of the serous membranes being involved than in typhus. After stating that irritations of the pulmonary system are more commonly met with in measles and scarlatina, and those of the digestive system in variola and erysipelas, he next proposes the question, whether the inflammation of the mucous membrane in the former case is specifically different from that in idiopathic bronchitis. To a satisfactory solution of this question sufficient observations are yet wanting. The author next proceeds to the consideration of—

CHRONIC SECONDARY BRONCHITIS, and points out the most striking instances of bronchial irritation connected with those slower actions which result from chronic constitutional disease, such as gout, scrofula, syphillis. &c., which, as well as those affections of the system called fevers, may, and actually do, produce their specific forms of bronchial inflammation. Numerous instances may be adduced to prove that the pulmonary system may be affected, either primitively or consecutively, by the gouty irritation. The spyhilitic poison also has the power of exciting all the symptoms of bronchial irritation and inflammation, which may assume either an acute or chronic form; in the first instance it is analogous to the bronchial irritations of the exanthemata, while, in the second, there is a chronic irritation, which, when combined with the syphilitic hectic, and with periostitis of the chest, closely resembles true pulmonary phthisis. In support of the opinion that the syphilitic poison may affect the pulmonary, as well as the osseous, cutaneous, and mucous tissues, Dr. Stokes adduces the high testimony of his friend and colleague, Dr. Graves. The diagnosis he lays down between this syphillitic irritation of the bronchi and tubercle, is "the want of accordance between the physical signs and the constitutional symptoms." He next proceeds to consider—

Sympathetic Cough, of which there may be two forms, the primary irritation in both residing in the digestive system. The first form is, the cough resulting from gastric inflammation, and the second that from intestinal worms. The following characters of this gastric cough are taken from Broussais, to whom our author acknowledges himself much indebted for valuable information on this subject. "It comes on with violent shocks, which occur at each inspiration, and those violent paroxysms, which would produce swelling, and lividity of the countenance, are never observed. It is more alleviated by cooling and slightly acidulated drinks than by bleeding; and lastly, with reference to the expectoration, it may be present or absent according to the degree of the bronchial irritation, but its excretion may be suspended by means calculated to relieve gastritis, and this suspension is advantageous to the patient."

Dr. Stokes now proceeds to state the results of his own experience on this interesting subject of sympathetic affections. These he is inclined to consider at first only lesions of function, but that when they are violent or long continued, they become complicated with organic and structural change.

> "We may," he says, "see a patient with the most aggravated cough, yet with a chest clear on percussion, and the murmur either pure, or mixed here and there with a little sonorous and mucous rattle. This want of proportion between the physical signs and the functional lesion leads us at once to the principle of diagnosis, what may be announced to be, *that when distressing pectoral symptoms exist, the morbid physical signs being either absent, or if present, yet revealing an amount of disease too slight to account for the symptoms, we may make the diagnosis of sympathetic irritation.*"

Our author now directs his attention to the sympathetic cough arising from the irritation of intestinal worms. The cause of this cough is often difficult to be ascertained. He here enumerates certain circumstances which should lead us to suspect its real source.

First. Its character; the cough, whether it be laryngeal or pulmonary, being generally spasmodic, often violent, and almost always dry.

Second. The absence of physical signs of pulmonary disease or if they be present, their want of proportion to the symptoms. In this investigation both the active and passive signs must be carefully examined.

Third. The absence of symptoms of laryngitis, or organic disease in the vicinity of the trachea.

Fourth. The healthy state of the pharynx.

Fifth. The failure of treatment directed to the chest, whether of an antiphlogistic or antispasmodic nature.

Such a combination in a young person, more particularly in one in whom, from other considerations, one might be disposed to suspect worms, should incline very much to the belief in their existence. We now come to the authors—

Treatment of Bronchitis; and first of the simple and mild form, which is commonly met with about the period of the first dentition of children. In the apyrexial form of this disease he recommends a free and complete division of the gums, the incision being proportioned to the number of teeth likely to appear. Attention to the bowels by the use of hydrargyrus c̈ creta and rhubarb, followed by castor oil and minute doses of hippo, include all the treatment necessary. When there is violent fever, however, bloodletting both general and local are found necessary, when the disease occurs in a strong child, which has passed the age of a year. The remainder of the treatment consists in the use of internal remedies, the principal of which are the potassio-tartrate of antimony, and the combination of calomel and hippo. In simple bronchitis, where the inflammatory symptoms run high, our author gives the decided preference to the former.

Treatment of Bronchitis in the Adult. Should the accompanying fever be inflammatory the lancet must be employed. The author here makes an observation of considerable importance in a practical point of view, namely, the great difference in the result of bleeding in serous parenchymatous inflammations, and that in mucous inflammation; experience shews that general bleeding has much more influence in cutting short the former than the latter diseases. He next points out the necessity of emptying the patient's bowels. The local detraction of blood is of prime importance after general bleeding. Local depletion is found more efficacious when exercised over the upper than the lower part of the chest. Certain circumstances, such as suppression of expectoration when coinciding with increase of fever; increased dyspnœa, when not produced by over-secretion; local dulness, arising from congestion of the substance of the lung—may render it necessary to repeat the local abstraction of blood even in an advanced stage of the disease. Of the internal remedies to be employed in bronchitis the solution of tartar-emetic holds the first place. Great caution however is necessary in its employment, should there exist symptoms of gastro-intestinal irritation. Our author follows pretty nearly Laennec's mode of administering this medicine.

In discussing the *Treatment of the Second Stage of Bronchitis*, the author lays down a pathological principle, which he considers of great importance in the practice of medicine, one however which we think has been practically acknowledged, and virtually if not expressly recognized from a very early period, namely, that in a vast number of general and local diseases two stages are observed, in the first of which an antiphlogistic treatment is necessary, and stimulation is injurious; whilst in the second, antiphlogistic is insufficient, and often injurious, while stimulation becomes necessary. Dr. Stokes considers the overlooking of this second stage as one of the greatest errors of the physiological school. This principal he now applies to the treatment of bronchitis in its second stage, and first he considers the employment of counter-irritation, which is inapplicable in the earlier periods of the disease, so long as the skin is hot, the pulse strong, the expectoration scanty and difficult. The author here very justly reprobates the mischievous practice adopted by routine practitioners of having recourse to blisters in the early periods of disease, even before any antiphlogistic means have been employed for the purpose of reducing the general febrile state. In selecting the place for the blister we should be guided principally by the physical signs, and in particular by the active and passive auscultatory phenomena. In cases where the minute tubes have been affected, where the convalescence is slow and doubtful, and where there are alternations of hectic and synocha, the use of the seton has been found beneficial.

With respect to stimulating remedies in this stage the Doctor gives the preference to the decoction of polygala combined with carbonate of ammonia and the camphorated tincture of opium and squill. Next in point of efficacy he ranks the balsams, and the preparations of gum ammoniac. myrrh, and squill. The inhalation of balsamic preparations he considers attended with no inconsiderable degree of danger, as he has known several cases where a chronic bronchitis was converted into an acute, and as might be expected, fatal pneumonia, by their use. The bad consequences of the misapplication of this class of remedies may be best avoided by attending to the following circumstances:

First. To provide that the stimulating remedy shall be preceded by a fit antiphlogistic treatment.

Second. To combine it with a revulsive plan, such as blisters, cupping, warm bathing, &c.

Third. To omit the remedy on the slightest appearance of new irritation, either in the affected part, or in any other vital organ.

Our author next makes some remarks on the treatment of the apyrexial form of chronic primary bronchitis—in such case where the disease has not lasted more than a year or two, and in which the Summer remission has been complete or nearly so, we may hope to be able to do good; and if there be no evidence of tubercle, dilated tubes or enlarged air-cells, the prognosis will be still more favorable. If however the disease has been of several years standing, and the Summer remission has been very slight, and if there be permanent dyspnœ, palliation, not cure, is all we can expect. On the therapeutic means to be employed in this affection the author makes some practical remarks which we shall here present to the reader: 1st. he considers the employment of revulsives calculated to produce the very best effects. 2d. Sponging a large surface of the chest daily with a liniment consisting of spirit of turpentine and acetic acid, so as to keep out an erythematous state of the skin, he has found extremely beneficial, not only in bronchitis but even in confirmed phthisis. And the benefit to be derived from this remedy he thinks should be referred not merely to its counter-irritating properties, but to the absorption of the ingredients by the surface, by which they act on the mucous surface as direct stimuli. Another therapeutic remedy from which the doctor has derived advantage is the inhalation of aqueous vapour impregnated with a narcotic. Twelve or fifteen grains of the extract of hemlock may be diffused in a proper inhaling apparatus, and the vapour drawn into the lungs for a quarter of an hour once or twice a day.

Of internal stimulants he considers the terebinthinate preparation to hold the first place. The various balsams, exhibited either alone, or in combination with a sedative and tonic, are often found to act well. The late Dr. Armstrong, if we remember rightly, was a great advocate for copaiba in chronic affections of the bronchial mucous membrane. From the efficacy of strychnine in the analogous affection of the gastric mucous membrane, the author conceives that there may be good reason to hope, that in the pulmonary disease it might also prove useful—quinine and the preparations of iron, especially when the powers of life are low, and antiphlogistic measures have preceded, are of acknowledged utility—where the flux is excessive, astringents are indicated, and the astringent remedy most approved by [the author is the acetate of lead. But in cases of over-secretion, unless the patient be much debilitated either from age or disease, the emetic plan he thinks is always to be prefered to the astringent. Emetics he conceives to produce very beneficial effects, not only by getting rid of the super-secretion mechanically, but also by exerting a favourable action on the cause of its production. He here adduces the testimony of Dr. Giovanni de Vittis in favor of emetics in this disease. The last point of treatment to which the author alludes is the use of sedatives and narcotics. These are chiefly useful, when the cough is severe and the expectoration not abundant. The preparations of opium, hyosciamus, or conium, and the combination of these with a small portion of belladonna, he has found extremely useful. He next comes to consider the

Treatment of Secondary Bronchitis—more particularly as occurring in typhus. Though the principles of treatment in this form are the same as in the idiopathic disease, yet in their application to practice, he conceives that certain variations are to be attended to. These he states as follows:—*First*, the antiphlogistic treatment is not to be employed so boldly nor so long.—*Second*, the stimulating treatment may be resorted to at an earlier period, and with much greater boldness. *Third*, that the use of blisters may be employed also at an earlier period. The other directions given by the author for the treatment of bronchitis in typhus with respect to the use of the lancet. etc, we abstain from giving, there being nothing very novel in them.

From the length to which we perceive our analysis of this work has already run, we find it necessary to defer further notice of it till our next number. We cannot however lay down our pen without expressing our deep sense of acknowledgment to Dr. Stokes for this so splended a contribution to thoracic pathology. The masterly and practical views taken by him of this so important a class of diseases, diseases too, to which, in some form or other, so vast a number of the inhabitants of these countries are daily falling victims, cannot fail to place him in the very first rank as a zealous pathologist, and a sound practical physician. He has indeed in producing this work more than realized the hopes which we formed of him from his numerous contributions to medical science communicated by him through the several medical journals of the day.

II. DISEASES OF THE WINDPIPE.

1. Observations on the Surgical Pathology of the Larynx and Trachea, including Remarks on Croup, Cynanche Laryngea, Wounds, &c. &c. By *W. H. Porter*, Professor of Surgery in the Royal College of Surgeons in Ireland. 8vo., pp. 275. Second Edition. London, 1837.

2. A Treatise on the Diseases and Injuries of the Larynx and Trachea. By *Frederick Ryland*, Surgeon of the town Infirmary, Birmingham. 8vo., pp. 328. London, 1837.

3. Traite Pratique de la Phthisie Laryngee, &c. Par MM. *Trousseau* et *Belloc*. 8vo., pp. 488. Paris, 1837. Balliere.

The description of the various morbid changes, to which the larynx and trachea are subject, is, in Mr. Porter's and Mr. Ryland's works, very properly preceded by a brief account of the General Pathology of Mucous Tissues.

Inflammation is, as a matter of course, the first and most important of these changes; and it is always very interesting to trace the varying characters and effects of this most frequent of all diseased actions, according to the part affected, the functions which it exercises, and the sympathies which it has with other systems of the body.

At present, we have no intention of entering upon any minute details on this subject, as such a discussion would necessarily occupy the space which we design to devote rather to therapeutic than to pathological medicine. There is, however, one of the effects, or, as they are usually called, the consequences, of inflammation of the larynx and trachea, which, from its peculiarity, deserves to be noticed—we allude to the effusion of coagulable lymph on their mucous surface in the disease well known under the name of Croup.

Every physician is aware that this most dangerous malady is almost peculiar to infancy and youth. A genuine case of it in the adult is of excessively rare occurrence—so rare indeed, that many have questioned the authenticity of the few examples on record. Certain it is, that the pathologist very seldom meets with real coagulable lymph on any one of the mucous membranes of the body, after an *acute* inflammation of the part, except in subjects under the age of puberty; or, if this position be disputed, at all events this effect of inflammatory action is infinitely more frequent in the early than in the more advanced years of life. This remark holds true in reference to the lining not only of the air-passages, but also of the other mucous canals of the body. Thus we occasionally find that inflammation of the alimentary canal causes an effusion of coagulable lymph from its surface; and many cases are recorded of soft shreddy tubular formations having been voided with the alvine dejections. This phenomenon is more frequently observed in the pharynx and œsophagus than in the stomach or any portion of the intestines; and it occurs much oftener in children than in adults.

Such cases, however, do not contradict the truth of the assertion which we have made—that *acute* inflammation of mucous structure very rarely causes an exsudation of genuine coagulable lymph, except in the trachea only, or, in other words, in the diseases of Croup; for it is usually, when the disease of the bowels has assumed a *chronic* form, that the effusion of lymph has been observed to occur. The same remark is applicable to the uterus. The inner surface of this organ is occasionally found to be lined with a layer of membranous deposit but this phenomenon is rarely or never witnessed after acute hysteritis.

There is, however, one form of acute inflammation of mucous tissue—besides Tracheitis or Croup—in which there seems to be an obvious tendency to the effusion of coagulable lymph, and which has of late years, since M. Bretonneau of Tours has written on the subject, attracted the attention of many medical men. We allude to the disease which this physician has designated by the appellation of "Diphthérite" (from διφθερα, pellis, exuvium), or "angine couenneuse." It is, in truth, a variety of Cynanche pharyngea, in which the inflammation manifests a strong disposition to the deposition of a false membrane on every part of the affected mucous tissue. The older writers have mentioned it under the name of *angina membranacea;* and more recently it has been described by some authors as the *pellicular inflammation of the fauces.* As there seems to be not a little incorrectness, in the views of many medical men, on the subject of this malady, we shall devote a page or two to consider some of its more important characters.

We may premise our remarks by suggesting the impropriety of applying a new and special name—that of Diphthérite—to one form only of inflammation of any part or organ. The disease is, in every respect, a mere variety of Cynanche or Angina; and hence it would be far better to affix some epithet, descriptive of its peculiar or pathognomic features, to these well-known and long-established names, than to increase our nosological nomenclature by unnecessary additions.

Besides this objection, there is a much more important reason for avoiding such new terms. The affixing of a new name to a disease is apt to withdraw the attention of the medical practitioner from the genuine nature of its most important characters, and to direct it, far too exclusively, to the study of one set only of its symptoms. This is the very error into which M. Bretonneau, and those who have adopted his doctrines, have fallen, in reference to the malady at present under our consideration.

It is an error much more common among the Continental than among the British physicians; but even some of our own writers, as we shall afterwards find, have been misled by the circumstance alluded to.

The extreme, and, in many respects, exaggerated importance, which of late years has been attached to the study of pathological anatomy, has tended not a little to encourage the prejudice in question. An apt illustration of the truth of this remark may be drawn from the history of other diseases, besides that of Diphthérite. Take, for example, Typhus fever or Hydrocephalus acutus. How vague, fluctuating, and uncertain have been the opinions of many medical men in reference to these two very common and most important maladies! Misled by attending far too indiscriminately to the post-mortem appearances, found on dissection, the French school have vainly attempted to prove that the essential and primary character of Typhus fever is an inflammation of the mucous glands of the bowels, and that all the constitutional symptoms of the disease are merely sympathetic of this morbid condition. Hence the names of *gastro-enteritis*, *dothinenteritis*, *fièvre entero-mesenterique*, &c.; and hence the most pernicious practice of invariably applying leeches to the abdomen, and of avoiding the use of purgative medicines, as recommended by so many Continental authors. It is unnecessary to express our sentiments at greater length on these doctrines of the French school, as we exposed their fallacies in our last number, while reviewing the works of M. M. Louis and Bouillaud.

Equally great have been the errors, which have arisen from applying the terms *arachnitis*, or *encephalitis*, to that train of morbid phenomena, which constitute the well-known disease of Hydrocephalus acutus. In making this remark, do not let it be supposed that we believe that this last-mentioned name is quite unobjectionable. Every physician of any experience knows well that numerous are the cases, where all the symptoms of acute Water in the Head have been present during life, and yet on dissection not a tea-spoonful of fluid has been found in any part of the encephalon. The watery effusion is justly considered to be only *one* of the effects of a previous diseased action in the substance of the brain itself. But, while we admit the truth of this, we are by no means prepared to concede to the French pathologists, that this preliminary diseased action is, upon all occasions, a simple inflammatory affection of the brain or of any of its investing membranes; else, why should we not find a hydrocephalic effusion in all fatal cases of phrenitis, or of inflammation of the cerebral membranes, after concussion and other injuries of the head?

These brief remarks will satisfy the judicious physician of the impolicy of altering old-established names of diseases, and more especially of changing them for such as are derived from the *presumed* nature of the morbid action on which they depend, or from one of their more prominent features. It is for this reason that we object to the substitution of such appellations as *gastro-enteritis* for Typhus fever, or *diphthérite* for one only of the varieties of Cynanche.

To prove the impolicy of such a nomenclature in reference to the latter disease, we shall now shew our readers what confused, incorrect, and practically dangerous doctrines, are announced in some of the most recent works on diseases of the air-passages.

Let us first hear what meaning M. Bretonneau and his followers attach to the term Diphthérite, and what morbid states are designated by it. Mr. Ryland says:

> "This name has been given, by Dr. Bretonneau of Tours, to that species of croup which affects adults. It is a disease of much rarer occurrence than the one that has just been described, and possesses characters sufficiently distinctive to entitle it to a separate notice. At the same time, it is proper to state that Bretonneau considers that the ordinary croup of children, the cynanche maligna, and the plastic angina, or *angine couenneuse* of the French, are all precisely the same disease, but producing different effects according to the seat and degree of the morbid action."

His description of its symptoms is as follows:—

> "The diphthérite commences with pain in the throat, difficulty of swallowing, and general febrile symptoms; on inspecting the fauces, the tonsils are observed

to be swelled and reddened, and to have upon their surface patches of a thick, opake, whitish concretion, which at this period of the disease are easily detached from the mucous membrane. If allowed to go on unchecked, the inflammation and the membranous exudation spread by continuity to the adjacent parts, the soft palate and pharynx; the glands at the angles of the jaw begin to swell, and deglutition becomes more difficult. If the concretion be detached from the membrane beneath, the redness greatly augments in the denuded parts, and another and thicker concretion is soon poured out, which adheres to the mucous surface with more tenacity than before. It frequently happens, that some days after the commencement of the attack, the disease becomes milder in character, less disposed to spread, and even ceases altogether without reaching the air-passages, in which case there is very little reason to be under any apprehension for the result. In most instances, however, at the end of four or five days, laryngeal symptoms begin to display themselves, such as a hoarse cough, alteration of the sound of the voice, and dyspnœa. From this time the patient has every appearance of suffering from severe croup, with the addition of an almost complete inability to swallow; the breathing becomes quick, laborious, and sonorous, the voice si soon extinct, the countenance livid, and the pulse small and intermitting; paroxysms of suffocation take place, till in one more severe than the rest death closes the scene."*

The extraordinary doctrine announced in these extracts—a doctrine which teaches that Croup and Cynanche maligna are diseases of the same nature, varying only according to the seat of the affection and the constitution of the patient—will not fail to astonish the reader, who is not in the habit of perusing the medical literature of the Continent; and yet, strange to say, such men as Laennec and Guersent, one of the most experienced practitioners in Paris at the present time, and a physician to the Hospital des Enfans, appear to have adopted it to its full extent. The following passages, from Laennec's great work, will show what an erroneous view he took of the question.

"Sometimes *croup* is confined to the bronchi and their branches, there being no trace of it in the larynx and trachea. More commonly however, as has been shewn by Bretonneau, the inflammation commences on the tonsils or the pharynx, and from thence spreads at the same time downwards to the larynx and upwards to the cavity of the nostrils, which latter it sometimes entirely covers. Occasionally the false membrane extends to the stomach." Guersent thus expresses himself as to the analogy between croup and putrid sore throat: "M. Bretonneau has demonstrated that the epidemic malignant angina is a genuine pellicular inflammation, similar to that of croup. He has also proved that these two diseases, identical as to pathological changes, differ from each other only in respect of the seat, which they occupy."

We are glad that such able writers as Dr. Cheyne of Dublin, and Dr. Tweedle of London, have in their contributions to the Cyclopædia of Medicine, exposed the fallacies and errors, into which the modern French pathologists have fallen upon this important practical question. They have most clearly shewn that, under the term Diphthérite, the most dissimilar diseases are grouped together—diseases which have no features of analogy, the one to the other, except in the mere circumstance of their affecting generally the adjacent, but sometimes the same parts of the body.

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*A shorter definition of the disease may be desirable. We may therefore state that by the term Diphthérite the French pathologists unperstand every form or species of recent disease of the fauces, pharynx, and upper portion of the air-tubes, in which the affected mucous surface is covered with a membraniform or pellicular exsudation; whether this be the result of active inflammation, as in croup and some cases of laryngitis, or of that putrescent action which exists in cynanche maligna and in certain epidemics of measles and scarlatina.

The seat of genuine Croup is almost always limited to the trachea and lower portion of the larynx. The disease commences there, and very rarely do we ever see the slightest mark of disease in the pharynx or any part of the fauces. It is essentially sthenic, and highly inflammatory in its nature, requiring for its treatment the most active antiphlogistic remedies. It is peculiar to infancy and youth, and is perhaps never observed after the age of puberty. It is never contagious, and is even seldom epidemic; most cases being clearly traceable to exposure to cold and damp. Such are some of the esssential characters of genuine croup.

To attempt to give any exact idea of the real nature of Diphthérite is almost impossible; seeing that various affections, of the most dissimilar attributes, are grouped together under this term. We have already stated that its primary and essential feature is the exsudation of an albuminous or coagulable effusion on the mucous surface of the fauces and air-passages; and that this effusion almost always commences on the velum palati, tonsils and pharynx, extending from thence along the nares, and sometimes down into the larynx and trachea, and even along the œsophagus into the stomach. But this effusion has no features which are uniform and permanent. Sometimes it is a firm lymph-like deposition, and is the result of an active inflammation of the fauces, as in Cynanche pharyngea and tonsillaris. At other times, it is soft, shreddy, in patches, like sloughy mucous membrane, and its presence is accompanied with all the symptoms of putrid typhus fever, as in Cynanche maligna, and in some of the worst cases of scarlatina and of measles.

These two opposite forms of disease have no common features of resemblance, the one to the other, except in the mere circumstance of the same parts being affected. The one is sthenic—the other is asthenic, with a decided tendency to putridity; the one may, or may not, be epidemic and contagious, the other is almost invariably so; the one requires an antiphlogistic treatment, the other is, as a matter of course, invariably aggravated by such remedies, and must be combated by cordials, antiseptics, and so forth. In short, the two forms of disease, now alluded to, are as distinct from each other, as Synochus is from Typhus gravior. Dr. Tweedie very properly prefers the generic appellation of Angina or Cynanchea membranacea to that of Diphthérite; distinguishing the one form, as the acute, and the other as the malignant or putrid.

There are various shades or degrees of both forms, according to the violence of the sthenic or asthenic sysmptoms, and to the extent of the membraniform effusion. As long as this effusion is limited to the fauces and pharynx, there cannot be any resemblance, in either form, to the peculiarly characteristic signs of genuine croup—*inspiratio strepens, vox rauca, tussis clangosa*, the shrill ringing cough followed by a deep crowing sonorous inspiration, and more or less complete hoarseness of the voice; but when it spreads to the larynx and trachea, these symptoms, as might be expected, to a certain degree supervene

This complication is much more common in the course of the acute, than in that of the malignant, form of the Angina membranacea. We observe it not unfrequently in some epidemics of scarlatina, measles, and small-pox, in which the throat symptoms are unusually violent. The fauces, during the early stage of the complaint, are found to be uniformly red and inflamed, often of a somewhat mottled complexion, in consequence of certain points being of a darker hue than the rest of the vascular surface.

To this state succeeds the appearance of numerous small white or greyish spots,.which, at first detached and isolated, gradually enlarge in extent, until they finally coalesce and form a pellicular covering over the entire surface.

MM. Brettonneau and Guersent have traced, on dissection, this effusion along all the passages which communicate with the fauces; upwards as far as the Eustachian tubes and frontal sinuses, and downwards into the trachea and the œsophagus. The subjacent mucous membrane seldom exhibits any morbid appearance, save that of extreme vascularity: in a very few instances it has been found slightly eroded. Even in the malignant form of the disease, the Cynanche maligna of most British writers, the integrity of the mucous tissue itself has been rarely, according to the pathological researches of the French physicians, detected to be at all injured.

What were formerly supposed to be sloughs of the mucous membrane have been proved to be, in most cases at least, pellicular membranes or exsudations. "When these are tinged with blood," says Dr. Twedie, "and especially when at the same time blood exudes from the lips and gums, their dark or almost black appearance and intolerable fætor have frequently caused them to be mistaken for sloughs; the surface, however, from which they are detached is perfectly entire, the mucous membrane, although of a dark red or livid colour, is perhaps not even softened, nor is there any peculiar odour of gangrene."

We willingly concede to M. Bretonneau the merit of having first clearly demonstrated by careful dissection the real pathology of this disease, the Cynanche maligna, or, if you will, the malignant form of Diphthérite, or Angina membranacea; and, had he been more cautious and circumspect in his conclusions, and less hasty in generalising facts and phenomena, of the most dissimilar character, under one common description, this merit would have been tenfold better deserved.

Let it not be supposed that the question, which we have been canvassing, is one of mere speculative moment, and that it does not affect the doctrines of practice. We have only to examine the therapeutic instructions in the works of M. Bretonneau and of other French physicians on the subject of croup, to be satisfied of the errors, which their recent speculations about the analogy between this disease and cynanche maligna, have led them into. Before, however, doing this, it may be useful briefly to describe the practice which is recommended by the best physicians in our own country, and to the value of which we can testify from the results of a pretty extensive experience.

The *first* thing to be done, when we are called to a case of Croup, is to administer an emetic, in order to ensure a full and powerful action on the system, independently of its merely evacuating effects. For this purpose, by far the best is a mixture of the tartrate of antimony and of ipecacuan powder. The formula, which we generally use, is a couple of grains of the former and a scruple of the latter to an ounce and a half of dill-water, sweetened with half an ounce of simple syrup. A dessert-spoonful or so—according to the age and strength of the child—of this mixture may be given every ten minutes until copious vomiting be induced. Such is the simple and efficacious remedy which is first to be employed.

When once the desired effects are obtained, the physician ought, without delay, to abstract a certain portion of blood. This is to be done by means either of venæsection or of leeches. Whenever the case is, or threatens to be, violent, the former is decidedly to be preferred, however young and apparently feeble the little patient may be. The object is, not merely to withdraw a certain portion of blood, but to make a speedy and decided impression on the general powers of the system, so as to keep up and to increase the effects already procured from the administration of the emetic. Often indeed there is extreme difficulty in opening a vein in a young child, especially when he is fat; the subcutaneous vessels being completely hid among the dense, firm adipose tissue. Still, however, let the trial be made: a mere incision or two through the skin are of no consideration, when the very life of our patient is at stake. If no vein of the arm can be found, let the jugular vein or temporal artery be tried; or perhaps some of the veins of the foot will be found to afford a small quantity of blood. Some physicians, indeed, have recommended that the jugular vein should *on all occasions* be preferred to any of those on the arm, even when the latter are quite distinct, and may therefore be readily opened. On this point we do not agree with them. The bleeding is seldom or never so free from the jugular vein, in consequence not only of the looseness of the integuments of the neck, but also of the movements of the head, which the child is almost constantly rolling about from one side to the other. It is a mistake, we believe, to suppose that the withdrawal of blood from a vessel in the neighbourhood of the suffering organ is much more, if indeed at all, efficacious in arresting inflammatory action, than from a more distant one.

If a sufficient quantity of blood can be obtained to induce a decided depression of the vital powers, it matters not whence it is drawn; and that method is to be preferred which least incommodes or distresses the patient.

Supposing, however, that we do not succeed in drawing blood enough by venæsection, or, again, if the disease is not so violent as to require it, the physician should then trust to local bleeding by means of leeches; and, in reference to this point of practice, there are two *hints* which we wish to impress strongly on the mind of the young practitioner. The first of these is that he will do well, in a case of such extreme urgency as that of Croup, to act the part of *nurse* as well as of *doctor*. Let him, therefore, not entrust the application of leeches to any of the attendants, but do it himself, or have it done by a professional assistant. There are such numerous mistakes constantly made, even by experienced nurses, in using this apparently so simple a remedy—either by applying the leeches in the wrong place, or teasing and distressing the patient by frequent ineffectual attempts—that we are confident that its good effects are often lost through their awkwardness and ignorance. Independently of the high principles of duty—and few duties are more imperative than those which are very properly required of all, who are entrusted with the lives of their fellow creatures—as well as of professional curiosity to watch the effects of his practice, the physician will often have the pleasing delight of receiving the unmingled gratitude of affectionate parents to reward him for an hour or two's attendance. Of this, at least, he may be assured, that he will never have cause to regret his trouble, however large may be his practice, and established his fame.

The second suggestion, which deserves our attention, is respecting the proper place where the leeches are to be applied. As a general remark, we may assure our younger professional brethren that leeches should seldom or never be applied, at least in any considerable number, along the front of the neck of an infant. Not only is there frequently the greatest difficulty experienced in checking the hæmorrhage from this part but the distress and inconvenience to the little sufferer, from the irritation excited as well by the leech-bites themselves as by the often-repeated attempts to apply the leeches in the first instance over the very seat of the disease, far outweigh any supposed advantages of drawing the blood from the immediate neighbourhood of the affected organ. Every good effect may be obtained from putting on a sufficient number of them, over the upper part of the chest, along the top of the sternum and sternal ends of the clavicles. The simplest plan is to apply a wine-glass, containing from half-a-dozen to a dozen leeches over the sternum. If more are required, we have only to make a second application. In this way, the bleeding points are kept all near to each other; and thus the effects of the continual oozing are much more decided and effectual. The oozing is readily maintained, for almost any length of time, by laying a thin piece of rag, dipped in hot water, over the bleeding surface; and is easily checked, when this is deemed necessary, by slight pressure with the finger upon the subjacent bone.

These *hints* will not be deemed unnecessary by those who have seen many cases of croup treated, either in their own practice, or in that of others; and we are the more disposed to inculcate their importance, from the omission of all advice on the subject in almost every recent work, which we have looked into. For example, Mr. Ryland seems not to be at all aware of the inconveniences, not to say positive disadvantages, and even the occasional danger, of applying a number of leeches to an infant's throat.

> "In the majority of cases, the application of leeches *along the course of the trachea* will be preferable to general blood-letting, because the disease more frequently occurs in weakly children than in those that are habitually healthy: but when the febrile excitement is great, the face flushed, and the respiration and pulse much quickened, venesection to the extent of producing faintness should be put in practice, for this disease has strong points of resemblance to inflammations of the serous membranes, and in such complaints the advantages of a full and early bleeding are universally allowed."* 146.

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* The author, in a subsequent page, has certainly undervalued the good effects of bleeding in poor practice. From the result of eight cases—in four of which the patients were leeched and died, and in the other four they were not and yet recovered—"we may," says he, "I conceive, draw an inference unfavourable to bleeding in croup amongst the paupers of a large town."

Be it remembered, that in every one of these, eight cases, "the complaint had, been overlooked and neglected, and relief was sought at a very late period."

Under such circumstances as these, indeed, the omission of bleeding may be quite proper. It is only to the universality of the advice that we make any objection.

And, on the other hand, Mr. Porter, while he differs from Mr. Ryland as to the comparative advantages of general and local bleeding in Croup, has most assuredly undervalued the great importance of the latter method, and has exaggerated its inconveniences, in consequence of neglecting those very hints, which we have alluded to above. The following passage will satisfy our readers of what we mean.

> "Bloodletting, in croup, should be always general, because the object is to produce direct and immediate debility, and the arm or the external jugular vein may be indifferently chosen for the purpose. Topical bleeding by leeches, &c., may be resorted to in cases where, in consequence of the child being very fat, it may be difficult to discover a vein, but otherwise I regard this practice as highly objectionable. It does not answer the purpose of immediately reducing the patient; and it is questionable whether it can produce any effect on the vessels of a part which lies so far removed from the surface. The oozing of the blood renders the condition of the patient uncomfortable and filthy. The hæmorrhage is often so difficult to be controlled as to render bandages and compresses necessary; and these, applied to the neck, never fail to aggravate the sufferings of a patient already perhaps in a state of suffocation. But what is more important, it is often absolutely impossible to stop the bleeding from leech-bites on children, and many have perished from this cause alone. Has not every practitioner seen children pale and exsanguineous, with heaps of rags and flour and lint piled over the punctures in order to stop the blood, which still continued to trickle, notwithstanding the weakness of the little patient, until the powers of life becomes irrecoverably impaired? Therefore, in all cases where it may be practicable, I would prefer general bloodletting; and this should be followed by the exhibition of some preparation of antimony calculated to produce a state of nausea, and no more." 31.

We now proceed to the other parts of the treatment. No sooner has the emetic acted freely, and a sufficient quantity of blood been drawn, (or, if leeches have been applied, while the oozing still continues,) then we should commence the use of mercurials, given in such doses as to affect the system. For this purpose, we may order a grain or more of calomel, combined with the same quantity of James's powder, and of the nitrate of potass, every two hours, alternating each dose with a table-spoonful of a solution of tartar-emetic, or of a mixture of ipecacuan powder, so as to keep up a constant nausea.

In this manner, we shall very often succeed in making a speedy impression on the malady; as no hour passes over, without either the calomel, or the nauseant being administered. Should our patient be very feeble, or should there be a disposition to diarrhœa, the hydrargyrum cum cretâ may be substituted for the more active calomel, and the ipecacuan, in repeated doses of one or two grains, may be substituted for the antimonial preparation.

With respect to the effects of the mercurial treatment of croup, Mr. Porter does not award to it that importance which, in our opinion, it deserves. He has said:

> "The exhibition of mercury has also had its advocates in the treatment of croup, and within my own experience it has appeared occasionally to have produced material benefit; but its use is nearly confined to long-protracted and chronic cases, where there is a tendency in the mucous membrane to become thickened and changed in its structure. Sometimes, in large doses it has,

seemed to have been useful even in the commencement of acute attacks, although either here or in more chronic affections it is not easy to explain its mode of operation. It is very rarely that calomel, however administered, produces any sensible effect on children under nine or ten years of age, except when it exhibits its purgative effects; but something else must be looked for with reference to its operation in the cure of croup, for certainly it accomplishes more than could be expected from any other purgative whatever." 35.

His remarks however on the use of blisters in this disease so completely coincide with our own, and are so thoroughly practical that we have great pleasure in submitting them to the reader's attention.

"It is always hazardous to apply a blister in the immediate neighbourhood of inflammation, and particularly so if the constitution has not previously been brought down by bleeding and other evacuants, lest it should increase the evil it is intended to remedy. But a consideration of more importance is, that patients who have labored under difficult respiration for any time always have their vital energies impaired. In some instances, a blister has seemed to be perfectly inert—has never risen, or even produced a rubefacient effect: in others the consequences have been truly formidable, deep and extensive sloughs having formed whatever the blister had been applied. In the more advanced stages of croup, when the lungs are congested and there is a tendency to effusion within them, there seems to be less objection to the use of this remedy as applicable to the chest itself. But, after all, where is the value of removing this congestion, if it was even in our power to do so, without at the same time relieving the obstruction to the respiration which occasioned it? I have generally found the application of a blister to the chest in this disease to be nearly useless; when applied to the throat, it has but too frequently proved worse." 14.

It is scarcely necessary to observe that our objections to the use of blisters in croup apply to the *earlier* stages only of the disease. When the active phlogistic symptoms are once arrested, and when there is a tendency, so to speak, to recovery, decided benefit may be derived from the application of a blister to the upper part of the chest, or sometimes to the nape of the neck.

There is another class of medicines, to which we have not yet alluded, but the use of which should never be omitted, unless certain contra-indicating symptoms chance to exist: we refer to that of purgatives. Every physician knows the importance of free and repeated evacuations of the bowels in all febrile diseases. Their good effects are attributable not merely to the discharge of all offensive matters from the intestines, but also to the powerful derivation which they effect upon distant suffering organs, and to the general depression which they produce. In such diseases as Croup—in which it is necessary to be administering to a child medicines so frequently as every hour or two—enemata are by far the best mode of soliciting the action of the bowels. A purgative enema may be given every four or six hours, without any inconvenience to the infant, or in any way interfering with the other parts of our treatment.

Even in cases, where there is a disposition to diarrhœa, we have derived much good from the use of injections—not purgative indeed, but simply emollient. or of gruel or barley-water with or without the addition of oil and moist sugar. Besides the soothing effects not only upon the bowels, but on the whole system, they in some degree prevent the irritating effects which the large doses of mercurial and antimonial preparations are so apt to occasion.

In Croup, as indeed in all other diseases of violent excitement, there is a *period* at which the use of antiphlogistic and depressing remedies must be discontinued, and recourse should be had to quieting and even to slightly stimulating measures.

When the pulse becomes soft and easily compressible, when there is any, even the slightest, tendency to syncope, when the breathing is rapid and yet not deep, and when the surface loses its feverish heat, it is time to make a change in our practice. The administration of weak beef or chicken tea is the safest and best stimulant, which we can give at first. Along with this, a few drops of sal volatile, with minute doses of opium or of hyosciamus, in a mucilaginous mixture, may be administered frequently; and all evacuations from the bowels should be moderated or repressed.

When the symptoms of exhaustion are more decided, stronger and more frequently repeated stimulants must be employed. Of these burnt brandy, æther, and ammonia, with or without opium, are the best. Under such circumstances, it is always a most important object to procure sleep—hence the gratifying results, in many cases, from the judicious exhibition of opiates at the proper time.

Before dismissing the treatment of croup, it is right that we should allude to the proposal of performing tracheotomy, when other means seem to fail. In this country at least, the operation has been of late years certainly, and we think quite deservedly, falling into discouragement. The following extracts from Mr. Porter's work are, in our opinion, quite expressive of the sentiments of most British practitioners.

> "Quite independently of the difficulty of performing the operation of bronchotomy on a child, which forms, however, a most material objection, it is very doubtful whether it will ever become a favourite remedy in croup. Dr. Cheyne, in his work on the Pathology of the Larynx and Bronchiæ, states that there are always 3ths of the canal free for the transmission of air, a space which would be sufficient to maintain the process of respiration even in an adult subject. It would appear, therefore, that the patient dies, not because there is an absolute insufficiency of air to provide for the arterialization of the blood, but because some change has taken place in the organ by which this most important function is performed. In all cases where the disease consists of inflammation of the mucous membrane I feel satisfied that the artificial admission of any quantity of air (which is all that can be accomplished by the most successful operation) will confer no benefit on the patient beyond relieving him from the exertions he is obliged to make to dilate the rima glottidis,—exertions which he will make if the larynx be only partially closed, and a sufficient aperture for the passage of the air still remains." 46.

Having thus described the treatment of Croup, which we have found most efficacious in our own practice, and which is approved of by most British writers of repute, let us briefly compare it with that, which is recommended by some of the most recent French authors.

We formerly stated that the strange hypothesis of indentifying Croup with the other forms of pellicular or membranaceous angina, including Cynanche maligna, has necessarily led its advocates into some pernicious errors in a practical point of view. For example, M. Laennec remarks:—

> "All practitioners, who have had occasion to see a good deal of this disease (of croup) will readily admit that these (antiphlogistic) measures, although very rational and conformable to the results of experience in the treatment of in-

flammatory diseases in general, are nevertheless rarely sufficient, and that very few well characterised instances have yielded to their influence."

And M. Bretonneau uses language still more emphatic on this subject:—

> "I am forced to declare, contrary to the received opinion, that bleeding in croup has done harm, and accelerated rather than retarded the spreading of the coriaceous inflammation. I did not abandon this measure, till after repeated proofs of its injurious effects."

Such advice can require no comment, when addressing the British reader. If these authors allude to genuine Croup—the angina or cynanche trachealis of the older writers—we need scarcely say that the treatment which they recommend, deserves every reprobation; and, on the other hand, if they are alluding to the Cynanche maligna and some other forms of sore throat, which we occasionally meet with in certain unfavourable epidemics of scarlatina, measles, small-pox, &c., their language, in applying the term *Croup* to such affections, is most censurable.

We might, probably, have not insisted so much on the errors of the French school, if we had not perceived the tendency of some writers in this country to be misled by their novelties. Mr. Ryland, while he avoids the extravagant folly of regarding Croup and Cynanche maligna, as analogous diseases, has in his chapter on *diphthérite*—(a term which, as we have already stated is quite unnecessary in medical nomenclature)—made use of language which seems to us to be certainly objectionable. For example, he says:

> "If we compare the symptoms and the pathological effects of the diphthérite with those observed in the ordinary forms of infantile croup, we are struck at once by the many points of analogy that exist between them, though there are some differences in their origin and progress. That the two diseases are similar in their nature can admit of no doubt; the latter periods of both affections are precisely the same, the organic lesions in the air-tubes discovered after death are also exactly of the same character." 171.

That there is one form of Diphthérite or Angina membranacea of a decidedly inflammatory nature, and which therefore may be said to be, similar in its nature to Croup, is very true; but Mr. Ryland seems to have forgotten that there is another form, we mean the genuine Cynanche maligna, of a very different character and whose nature has no analogy with it.

Indeed the whole of the chapter on Diphthérite in his work requires revision, if not indeed exclusion, at least under this appellation. The author throughout, labours to give a description of a disease, on which he is far from having any clear notions. He trusts much more to what M. Bretonneau, or what M. Louis has written than to his own experience and observation. Even on the subject of the treatment, he is evidently not *at home*. For example, he says, or at least implies, that as Diphthérite—which, be it remembered, includes Cynanche maligna—is at its commencement, so much a local disease that the constitutional symptoms might almost pass unnoticed, and as it only becomes dangerous by spreading from the fauces to the air-tubes, our chief reliance should be placed in the application of topical remedies, such as the muriatic acid, a solution of nitrate of silver, or of alum, &c., to the inside of the throat. The only constitutional remedy he mentions as being "not quite destitute of efficacy" is mercury.

We need scarcely say, that in numerous cases of Diphthérite or Angina membranacea, there are other remedies far more safe and valuable than mercury, and that this drug is often positively injurious, if employed otherwise than as a purgative. The exhibition of effervescing salines and of stimulants and cordials, along with the use of gargles, or the direct application, in certain cases, of the lunar caustic, or of a strong acid to the fauces, is a much more rational, and will be found to be a much more successful, mode of practice than that of giving large and repeated doses of calomel.

On the other hand, in the acute form of Diphthérite, local bleeding and nauseants are not to be neglected, however useful the mercurial treatment may be at the same time.

But it is now high time to quit the subject of Croup and Diphthérite.

We propose to devote the remaining few pages of this article to the brief consideration of that most distressing chronic disease of the larynx, which has been called Phthisis laryngea.

It was at first our intention to have examined the history of phthisis laryngea at considerable length, and for this purpose we had prepared a summary of the most important facts and observations recorded in the works of MM. Trosseau and Belloc, and of Mr. Porter, on the subject. The extent, however, which the present article has already reached, will prevent us from doing more than merely calling the attention of the reader to one or two of the more prominent topics; and we shall reserve the minute details till our *next number*, when we hope to complete our review of the pathology of the larynx and trachea.

Under the term of Phthisis laryngea are usually included all organic alterations of the upper portions of the windpipe, which are accompanied with cough, dyspnœa, purulent or bloody expectoration, and the symptoms of hectic fever.

It has been a question among some pathologists whether ulceration of the larynx or Phthisis laryngea is ever a primary idiopathic affection, or whether it is not always secondary to disease either of the lungs or of the fauces. That the windpipe is very frequently involved in the general morbid changes which attend advanced *phthisis pulmonalis*, is known to every physician, more especially since the admirable pathological researches of M. Louis. From these it clearly appears that, the larynx suffers in nearly one-third or one-fourth of those who die from genuine consumption. But it is comparatively a rare occurrence to meet with a case, in which the ulcerative action has commenced primarily in this organ, anteriorly to any affection either of the lungs themselves or of the fauces.

MM. Trousseau and Belloc, in treating of the causes of Phthisis laryngea, admit four species of the disease; according as it is the consequence of—1. Simple or scrofulous chronic laryngitis; 2. Of syphilitic cachexia; 3. Of scirrhous and cancerous action, and 4. Of the tubercular affection of the system. The symptoms are nearly alike in all these varieties of the disease, and may be briefly described as follows.

The earliest one, which usually attracts notice, is an alteration in the tone of the voice. Sometimes it becomes only weaker than before; at other times it is simultaneously very rough and hoarse, the hoarseness being always aggravated by any fatigue or by vicissitudes of temperature. At first these changes are inconsiderable and intermittent; but as the disease advances, they are more conspicuous, and ultimately become quite permanent. Along with the affection of the voice, there is almost always a cough, which varies much in severity and character in different cases, and more especially in the different varieties of laryngeal disease. It is very generally accompanied with the expectoration of sputa, which are at first mucous and transparent, and afterwards are purulent and very fœtid. Pain too is a symptom which is usually present; but it must be confessed that this is one, on which we cannot place much reliance. In certain cases the patient complains little, if at all, throughout the whole course of the disease; in others it is sharp and troublesome at the commencement and during its earlier stages, and ceases altogether afterwards; whereas, in a third set, it continues throughout the whole course of the disease. The pain, it is most worthy of notice, is almost always much more aggravated by the act of swallowing than by any other effort, except when firm pressure is made on the outside of the larynx. It is, however to be remembered that, in not a few examples, even swallowing does not produce any inconvenience.

In the more advanced stages of the disease, the physician may sometimes receive partial assistance in his diagnosis from a careful inspection of the fauces. The uvula and tonsils are often found ulcerated; and, occasionally, even the surface of the epiglottis is similarly affected, and may be perceived, when the tongue is well protruded from the mouth. It might be supposed that, when the larynx is seriously affected, as when its cartilages are carious or necrosed, the integuments of the throat might be swollen and painful. But this is rarely found to be the case, at least in the Simple laryngeal Phthisis, according to the experience of MM. Trousseau aud Belloc. Certain authors have told us that, in some cases, they have met with a very distinct crepitation, when the larynx was moved about under the fingers; and this symptom they have attributed to the rubbing of the necrosed and partially detached portions of the cartilages, the one against the other; but, independently of the extreme rarity of the occurrence, it is to be observed that the same sound is sometimes to be heard even in a state of health.

The most characteristic symptoms, after those furnished by the changes of the voice, are those connected with respiration. In the early stage of the disease, the breathing is little, if at all, disturbed, except perhaps on active exercise. Then the act of inspiration is usually accompanied with a crowing or piping sound, the act of expiration being free from this phenomenon.

As the disease advances, the breathing becomes more panting and oppressive, although the lungs may remain all the while unaffected by the morbid change. The character of the dyspnœa is somewhat different from that, which is usually present in pulmonary consumption. It is more paroxysmal; the patient being every now and and then subject to the most distressing fits of asthmatic distress. These fits are always the most frequent and most severe during the night; and, as might be expected, they are much influenced by the vicissitudes of weather, &c. The agony of these attacks is often most appalling; the poor patient gasping and writhing ineffectually for breath, like a strangled man. In some cases, death is the immediate consequence of such an attack.*

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*Our French authors have canvassed at some length the question whether the trachea or the bronchi are endowed with any share of contractility, as some authors have supposed. They answer in the negitive; and refer the more violent symptoms of asthma, croup, &c., to a contracted state of the rima glottidis, and not to any spasm of the alleged muscular coat of the air-tubes.

We have already alluded to the difficulty of deglutition, as one of the symptoms of Phthisis laryngea. In some cases, the difficulty is so great that the patient cannot swallow any solid food without the most urgent distress; and, when he attempts to swallow a liquid, a portion of it escapes into the larynx and causes a violent fit of coughing.

It was formerly supposed that, when such a state of things was present, there was always an actual destruction of the epiglottis. But this supposition is now acknowledged to be erroneous; and we have the authority not only of MM. Trosseau and Belloc, but also of all the best pathologists of the present day, that, on the one hand, an extreme degree of *dysphagia* may exist, when the epiglottis is quite sound and entire; and. on the other hand, that the act of deglutition is occasionally but little incommmoded in cases, in which, on dissection, this valve has been found to be almost entirely destroyed.

The symptoms, which we have above described, are applicable to all the different forms of Laryngeal Phthisis. But each form or species of the disease may present certain special phenomena, attention to which will assist our diagnosis.

In *syphilitic* laryngeal phthisis, the pain is usually much more severe, especially during the act of deglutition, or when pressure is made on the throat, than in the *simple* form. The severity of the pain may be owing to the co-existing ulceration of the fauces, or to the presence of venereal vegetations in the pharynx and on the opening of the larynx itself. The mode, in which the disease becomes developed, may also assist our diagnosis. In the *simple* form, it usually commences in the trachea or larynx, and advances upwards to the epiglottis; whereas in the *venereal* form it most generally proceeds from the fauces downwards.

The *tubercular* laryngeal phthisis is to be distinguished from the other forms of the disease, by the co-existence of those symptoms which are well known to indicate the presence of tubercular disease of the lungs. Hence it is by the stethoscopic signs, by the nature and quantity of the sputa, and by the rapidity of the emaciation, that this form of Laryngeal Phthisis is best discriminated.

In closing these brief remarks, we gladly avail ourselves of the present opportunity to express our high opinion of Mr. Porter's work. It is characterised throughout by great ability, and by the soundest practical judgment. The author evidently writes from experience, and describes what he has seen and observed himself at the bed-side of the sick; and there is altogether such an air of candour in his observations, that the reader at once feels willing to be guided in his practice by them. All physicians and surgeons will therefore do well to add this book to their libraries.

The work of Mr. Ryland is more comprehensive in its scope, professing, as it does, to be a complete treatise on the diseases and injuries of the larynx and trachea, and is founded on an Essay, to which the Jacksonian prize was awarded a few years ago. The author has investigated each subject *seriatim* with praiseworthy diligence, and has availed himself of all the recent continental authorities on pathology, to render his work a text-book on the present state of medical opinion.

ON THE TREATMENT OF THE VENEREAL DISEASE BY MERCURY

I. PRACTICAL OBSERVATIONS ON THE VENEREAL DISEASE AND ON THE USE OF MERCURY. By *Abraham Colles*, M. D., one of the Surgeons of Doctor Steven's Hospital, and lately Professor of Surgery in the Royal College of Surgeons in Ireland. 8vo., Pp. 351. 1837.

II. THE WORKS OF JOHN HUNTER, F. R. S., WITH NOTES. Edited by *James F. Palmer*, Senior Surgeon to the St. George's and St. Jame's Dispensary, &c., &c. in Four Volumes. Illustrated by a Volume of plates, in Quarto. Vol. II. London, 1835.

We devoted some pages in the last number of this Journal to a highly important practical subject—the treatment of Syphilis by mercury. If our readers will refer to the article in question,* they will find, or they may recollect that we examined the comparative merits of the mecurial and non mecurial methods, and expressed our opinion in favour of the former. We then proceeded to two chapters of Dr. Colles's work—the one containing an account of the "Natural History of the Venereal Disease," the other occupied with a description of "Chancre" and of "Chancrous Sores."

We shall now resume the subject, in conformity with the pledge we gave, and we shall endeavour to present to our readers a series of notices on a disorder as frequent, as serious, and as difficult to be understood and treated, as any that afflict mortality.

It is much to be regretted, that Lock Hospitals are not more numerous and more extensive than they actually are in Great Britain. In the Metropolis of the empire—a city with nearly two millions of inhabitants,—the solitary Lock Hospital is without funds to support patients, and without pupils to become acquainted with disease.

It is true that venereal wards exist in some of the General Hospitals. But they exist on a limited scale, and being subordinate to the other departments of the institution, they do not, and cannot, receive that degree of attention from the medical officers or from the students, which alone can qualify the former for enlarging our knowledge of the malady, or the latter for learing what is actually known.

The nature of venereal disorders, and the character of the generality of the patients, render their admission into General Hospitals a matter of questionable policy. The patients themselves can never be adequately separated from the common patients. Respectable females mingle with whores, and become familiar with vice. The moral pestilence, nay the physical disease, is constantly communicated, and the young girl who went into the hospital a simple maid, too often comes out an incipient prostitute. On the whole, it must be owned that the plan of appending venereal wards to General Hospitals, has certainly done little good, and probably much evil. Science has not gained, and morality has suffered.

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* Pp. 379, et seq. No. 54.

The reason why the Lock Hospital of London is unsupported may be readily divined. Conscientious people, the usual subscribers to charitable institutions, are averse to maintaining one which they conceive holds out impunity and a premium to vice. They think that syphilis, unlike many maladies, is a direct and proper punishment for sin, and that the hand of pity should not be extended to the sufferer from a guilty act.

We respect the motives, while we cannot concur with the reasoning of such persons. We must take the world as it is, not as it should be. If allowing persons of the lowest class to shift for themselves when affected with venereal maladies, would in any degree discourage vice and prevent such maladies, the refusal to establish charitable institutions for their relief would be reasonable as well as right. But the tendency to venereal indulgences is too strong to be repressed by such distant inconveniences, and the man or woman who failed to be restrained by other considerations, would not be so by the reflection that there were no Lock Hospitals.

The idea of preventing venereal indulgences and venereal disorders is perfectly ridiculous. But the community has a strong interest in mitigating an evil which cannot be averted, and in taking care that both its moral and and its physical constitution suffer as little damage as possible:—ne quid detrimenti capiat res publica.

It is more easy to conceive than to describe the consequences of allowing syphilis to ravage the lower classes of society, without eleemosynary medical interference. Those ravages would speedily be frightful, and the worst forms of phagedæna would undoubtedly prevail to a desolating extent. It is not difficult to suppose that the evil would not stop here—infectious complaints of new descriptions would probably be generated—and the world might see a second time such a pestilence of lues as once carried death and terror on its wings. The disease originating in the lowest class would not long be confined to it, for sexual indulgences confound all distinctions, and a whore in the Haymarket not unfrequently poxes the son of a Peer. Those very persons who, from pious motives, reprobated the idea of pouring the oil of charity into the "foul" ulcer of the pauper, would be not unlikely to find in the mutilated bodies of their own children, the consequences of their overstrained scruples.

All practical people must come to the conclusion that the only mode of keeping down the nuisance of venereal diseases in the poor, of extending humanity to them, and, at the same time, protecting the community, is by institutions of the character of Lock Hospitals. We have already pointed out the disadvantages of foul wards in the General Hospitals. If the system of voluntary contributions shall prove, as we suspect it will, inadequate to maintain Lock Hospitals, the Government is imperatively bound to interfere, and the nation must save itself from the consequences of national infirmities.

We have hitherto looked at the question as one of morals and police. But it must be regarded in a scientific sense, and that a very important one. The disease is complicated in its phenomena, difficult to be treated, destructive when not treated well, and of every-day occurrence in all classes. Surely, then, medical men should enjoy some opportunities of seeing *en masse*, a malady which they will certainly be called upon to combat, and which will injure their patients materially if they do not thoroughly understand its management. This is a self-evidence proposition. But, in reality, the very converse is acted on, and nine out of ten of those who go into practice have to learn all they *can* learn on the persons of the patients who are to come under their care. This may, for aught we know, be agreeable enough to those patients—the Public. Agreeable or not, it is the fact, for either there is no Venereal Hospital, or there are no pupils at it, or, if there are foul wards, the pupils are, for all useful purposes, excluded from them.

We have been tempted, by the importance of this subject, to say more on it than we at first intended. We return to what more strictly concerns us—the mode of administering mercury in syphilis.

ON THE ADMINISTRATION OF MERCURY.

Dr. Colles devotes two chapters—fifty-one pages—of his book, to the examination of the question—how is mercury to be given so as to effect most good and least injury. A question of no little difficulty and no little consequence.

> "It will be readily conceded," observes Dr. Colles, "that the efficacy of any remedy in the treatment of disease must in a great measure depend on the accurate knowledge which the practitioner possesses as to the most judicious mode of administering it; this position, which is true in respect even to the most simple and innocuous medicine, will be found to apply with peculiar fitness to the use of mercury, when we reflect on the astonishing powers of this substance, its great superiority over every other medicine in the cure of certain forms of disease, the different results it is capable of producing, according to the mode in which it is administered, and, above all, when we consider that in the hands of the ignorant and the injudicious, it will not only fail to remove that complaint for which it had been prescribed, but mây induce other diseases of a still more intractable nature, and that it even may, as too often has been the case, cause the sudden extinction of life." 25.

It is obvious, that in order to treat syphilis by mercury with the best chances of success, it is necessary to be well acquainted with the phenomena of the first, and with the properties of the second. Until the surgeon has that acquaintance with both, he will assuredly do much mischief, and probably but little good.

Dr. Colles insists on the necessity of preparatory treatment prior to the commencement of a mercurial course. The older surgeons carried their precautionary measures farther than usually thought necessary now.

> "Those measures," observes our Author, "were not confined to plethoric and robust individuals labouring under primary symptoms, (such persons were soon reduced by bleeding, purging, warm bathing, and low diet,) but they also very judiciously extended the principle to those cases where the health appeared broken down, and where the venereal disease was accompanied by some morbid state of the system, not necessarily arising from that disease. At the time when I commenced the study of the surgical profession, this practice was not entirely extinct; every venereal patent on his admission into hospital, was then, as a matter of course, ordered to be bled once, to be purged four times, and to have the warm bath twice in the first week, and not until all these directions had been complied with, was the use of mercury commenced. In the course of a

little time the practice of bleeding was confined to those cases in which active inflammation attended on chancre or bubo, but still that of purging, warm bathing, and low living was in all instances strictly adhered to. In cases of secondary symtoms, in unfeebled and reduced habits, I never at that period saw any sort of preparatory process adopted." 26.

After some observations of a general character, Dr. Colles draws a picture of the folly and mischievousness of prescribing mercury because a sore is syphilitic, without inquiring what states accompany the sore and whether they are not likely to be aggravated by the remedy. It is indeed both lamentable and surprising to observe the want of discrimination too frequently evinced in the prescription of this medicine. If a surgeon believes a sore to be syphilitic he orders mercury as a matter of course, because it is *the* specific. The word specific has blinded him. Had mercury been an ordinary medicine, and given for an ordinary malady, he would have reflected on what its operation was, and whether that operation would be proper. But being a specific, that resolves all doubts, or rather it prevents any, and the common dictates of experience and good sense are no longer carefully consulted. Will not many of our readers confess with a sigh the truth of the following case?

"A young plethoric man," says our author, "who has been pursuing a dissipated course oflife and pronounced by a surgeon to have a venereal ulcer and bubo, is directed to commence at once the use of mercury, either externally or internally; no previous measures are adopted, except possibly one dose of some cathartic medicine, no injunctions as to the necessity of rest and quietness, and confinement to the house, no alteration in his diet, in fact, no attempt to reduce the inflammatory and plethoric state of his system; but because he is young and healthy, and free from any of those diseases which appear in our nosological arrangements, he is therefore considered as in a fit state for the immediate use of this powerful medicine. Could I now induce such of my readers as have had practical experience, to recal to their recollection some of those cases of young men who have been thus hurried into a course of mercury, without any preliminary attention to their state of health, or without any particular instructions as to their mode of living; I have no doubt that every practitioner could adduce many instances in which their expectations of a safe and speedy cure have been disappointed; how frequently have they witnessed in such cases, that although the mercury acted on the salivary system, the ulcer assumed, not only a very unhealthy, but even a very novel and peculiar appearance, one which has sometimes caused them to doubt the correctness of their first opinion, as to its venereal character, and has induced them to lay aside the further use of mercury!" 29.

Both reason and observation may assure us that a disease like syphilis, evincing always a strong tendency to inflammatory complications, yet leading, like all specific poisons to a debilitated state of system, cannot be treated uniformly by any remedy of any sort. In the early stages, we must look for inflammation, and guard against its occurrence—in the latter stages, we must expect debility, and adopt those means which will diminish it. According to the constitution of the individual the inflammatory tendencies will preponderate in one case, the weakness in another; while, in a third, the most troublesome case of all, we shall meet with that peculiar state, which we know as irritable, influencing remarkably local conditions, and requiring all the care and all the knowledge of the surgeon to contend with it.

Preparatory treatment we take to consist essentially in this:—the evil tendencies of a disorder, and the effects of the remedy adapted for it being known, to bring the constitution to that state which shall be best suited for diminishing the former, and for promoting the latter. In the instance of syphilis the first thing to be apprehended is inflammation, the second is debility. Preparatory measures, then, should be such as will tend to diminish inflammation, without unnecessarily debilitating the individual. In point of fact, it is from such preparatory measures that we have seen good, and such we invariably employ.

It appears to us as absurd to subject all kinds of persons with primary symptoms to one plan of preparatory as to one plan of continuous treatment. The means adopted by the older surgeons, of bleeding, sweating, purging every patient at stated times, are on a par with the directions of the physician in the play, "to vomit the North Ward, and to blister the South." This Procrustian methodus medendi is ridiculous in the eye of reason, and injurious in the hand of practice.

As different individuals have different habits and predispositions, and as syphilitic sores themselves vary in their characters and their inflammatory tendencies, the amount of preparatory depletion must also vary. It is for the surgeon to determine that amount in each particular case. But we would insist on this caution. He has before him a disorder which must run a certain and not a brief course—which must debilitate his patient more or less—and he has before him too a remedy which, however stimulating in some senses, must, in the long run, debilitate his patient also. Let him then husband the constitutional resources of the latter. If he draws an ounce of blood unnecessarily, its loss will be sensibly felt; not, perhaps, at the time of its abstraction, but still it will be felt.

We have seen a good deal of syphilitic complaints in all classes of society, and, in London at all events, we decidedly object to active depletion as a precautionary measure in the majority of cases. Aperient medicines, where the bowels are not irritable, diaphoretic salines, quiet, and moderate low living, are the means which we find adapted for the bulk of patients. These means pursued for a few days, in some cases more and in some less, are usually sufficient to reduce all inflammatory disposition, and to pave the way for the mercurial course. The local applications should correspond with the general treatment. While we open the bowels and prescribe salines, we order diluted black-wash, or even a bread and water poultice for the sore. It is rarely that these measures are not adequate for the prevention of any untoward phenomena.

Suppose a patient properly prepared, the sore uninflamed, the secretions in good order, the system in a tranquil state. He is to be put on a course of mercury. What are we to expect from it—how do we intend to exhibit it? This is a matter of some consequence. Let us turn to Dr. Colles. He reasons thus:

> "When mercury is exhibited for the cure of any other disease, as well as for Syphilis, we shall find that its sanitary impression on the disease is contemporaneous with its action on the salivary system, and that when the latter effect has not been produced, neither will the former have occurred. Thus in cases of acute inflammation of a joint, or of the dense membranes of the eye, we find that the progress of the disease is arrested the moment the salivary system becomes

affected; and even in cases of other diseases, which cannot be considered as purely inflammatory or acute, the same remark will be found to hold good: thus in cases of orthopnœa depending on disease of the heart, with effusion into some of the thoracic cavities, and in which we commonly prescribe mercury in combination with squill and digitalis, the patient is not at first sensible of any improvement, but almost invariably, as soon as the gums become affected, he experiences relief, and perhaps the very next morning after this occurrence he tells us with joy and gratitude that he is considerably better, that he has passed a night of refreshing sleep, and that he has been able to do what he could not have done for weeks previously, namely, rest in the recumbent posture without any of that distressing and alarming sense of suffocation under which he had previously laboured, and which always supervened the moment he sunk into that position. It is unnecessary to particularize many other diseases in which the same fact occurs; indeed it may be asserted as the general rule. The contrary also will be found equally true: that is, that mercury will not prove serviceable in any disease for whose cure it has been prescribed when it does not produce its wonted effect on the salivary system. How often has this been verified during that time, when it was the fashionable practice to prescribe a course of mercury in all chronic affections of the liver! It then happened over and over again, that slight delicate females have been subjected to this treatment; friction perhaps has first been tried, and this failing to relieve the complaint, (because it had also failed to affect the salivary system,) the internal use of mercury has then been substituted, or probably combined with the former; thus the medicine has been persevered in, and the doses increased, even to an extravagant degree, but yet withal no salutary effect has been induced; on the contrary, the little remnant of strength has suffered so materially, that at length the mercury had been laid aside, and the friends as well as the medical attendant of the patient, have had reason to express, not only their disappointment, but also their amazement at the inefficacy of the mercury, of which the patient had taken fully as much as would have sufficed to salivate at least half-a-dozen young and vigorous men. If then it be so very generally found, that whenever mercury exercises a salutary influence over disease, it at the same time always affects the salivary organs; and if again whenever it fail to produce this latter effect, it be also found altogether inoperative in the cure of disease, it is surely a fair and legitimate conclusion to affirm that ptyalism marks the natural and salutary operation of this mineral." 33.

To a certain extent these propositions may be granted, and they may and do constitute an à priori reason for supposing that salivation is as requisite for the cure of syphilis, as for the cure of other maladies which mercury actually does cure. Dr. Colles proceeds to apply the analogy, and in some degree to qualify it.

"Let it not however be inferred from the foregoing statement, that I would wish to measure the efficacy of mercury by the amount of salivation which it excites; on the contrary, the degree of ptyalism that I am always anxious to attain, is merely an increased secretion of saliva, accompanied by swelling and superficial ulceration of the gums, and sometimes also of portions of the lining membrane of the cheeks and lips; this I am desirous of attaining as a sort of index which denotes first, that the mercury is acting in a safe and salutary mode upon the system; and, secondly, that it displays that degree of power or energy of action, which will be sufficient to eradicate the disease: so certain do I feel of the correctness of this view, that during a course of mercury for the cure of Syphilis, should this ptyalism be suffered to decline for some days, I should fear that all the additional mercury which may have been subsequently given in this more feeble manner would prove useless, that is, unequal in the cure of disease." 33.

However specious the analogy between syphilis and other maladies curable by salivation, it is clear that experiment and experience only can really decide the point. We cannot agree with Dr. Colles. We do not find it necessary to produce ulceration of the gums, nor do we believe that any quantity of mercury *minus* that which occasions this ptyalism must prove useless. This is a matter of fact, not of reasoning—of observation, not of hypothesis.

Salivation being an evil, it is of course an object to dispense with it if possible. All surgeons, in the present day, concur in admitting that salivation to any amount is unnecessary. It cannot, in the moderate way in which it *is* employed, do much in removing disease, but is rather an indication that the constitution is under the influence of the medicine. If this be so, why should we suppose that a quantity of mercury, insufficient to occasion salivation but continued for a longer time than when salivation is effected, exerts no influence on syphilis? We see no valid reason for that supposition; and so far as our observation has extended, it has countenanced the idea that mercury given short of salivation does cure the disease.

We do not wish to be misunderstood. We do not recommend very small doses of mercury; but we think, that if this medicine is given to the extent of making the gums a little sore and spongy, and of slightly increasing the salivary secretion, and if by the continued administration of mercury *that* effect is kept up for a certain length of time, a reasonable security against secondary symptoms is obtained, with very little detriment to the general health of the patient.

We see a considerable number of patients affected with primary syphilis. We never purposely *salivate* them, yet we very rarely indeed find secondary symptoms follow. If we may venture to draw a comparison, which will appear to be tinctured with vanity, and must be surrounded with uncertainty, we should say that we have fewer cases of relapses than most of the surgeons with whose practice we have become acquainted. But although we do not salivate, we take care to submit the patient to the mercurial influence for never less than five weeks, and frequently for a longer period; and we take care also to see that no induration, nor any morbid appearance, is left in the cicatrix.*

The regimen of patients during a mercurial course is a subject of considerable importance. In former times, as Dr. Colles observes, it was the custom to have the patient covered with a thick flannel, or woollen cloth dress, and the head even covered with a sort of hood, so that the face only was exposed; he was also confined to a very warm, close room from which the external air was most carefully excluded. The consequences of such a system were prominently shewn in the furious salivations, the emaciated figures, the pallid looks, the occasional mercurial erethismus, the still more frequent cachexia, which patients formerly displayed.

Mr. Hunter was instrumental in changing the system; but, as he contended that diet exercised no influence at all on the specific action of mercury, he only substituted one error for another. Still the world is deeply indebted to him; for the error he has introduced is incomparably less mischievous than the one which he exploded. On this point we quite dissent from Dr. Colles, who conceives that the system of our ancestors was the better one. "The proof of the pudding is i' the eating," and the proof of the present system being the better one, is the acknowledged diminution of those terrible cases which were formerly so rife. That diminution must in fairness be ascribed in part to the alteration in the regimen, and management of patients, as well as to the alteration in the mode of exhibiting mercury.

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* There are some sores attended with a degree of induration, which no reasonable quantity of mercury will remove. But such instances are the exception, not the rule.

Our readers must not, however, suppose that Dr. Colles is an advocate for acting on the wisdom of our ancestors in this case. He admires, but does not literally comply with its precepts.

> "Should our patient," he remarks, "appear debilitated after the moderate and the desirable degree of ptyalism has been induced, then we may safely allow him a full and generous diet, from which, however, I would still exclude all stimulating food or drink; moreover, if about this period the patient's strength fail, or if the local symptoms do not improve as we had expected, we may then combine with great advantage bark and opium with the mercury, while at the same time we should reduce the doses of the latter." 35.

Dr. Colles, from his time of life as well as his position, has necessarily seen much. Not only has he witnessed a good deal of the venereal disease, but he has witnessed also great revolutions in the treatment of it, and can tell us of bye-gone time. The following quotation, though lengthened, will interest our readers.

> "When I call to my recollection the results of my own observations on the treatment of this disease, made thirty years ago, and compare it with that of the present day, I think the comparison speaks decidedly in favor of the plan which was then pursued. For some years after I entered on the study of the profession, a surgeon felt himself rather humbled if he allowed a venereal bubo to suppurate; and if secondary symtoms appeared, he was considered to have mismanaged the case, and not unfrequently lost for ever after the total confidence of his patient. It is true, that at that time mercury was often used in excessive and in dangerous doses, salivations most profuse were excited, and which were attended with all their accompanying evils; but still, on the other hand, the patient who escaped these perils was generally freed at once from the disease. The regimen then was as strict as the medical treatment was severe. Lodging-houses were established in Dublin, solely for the reception of young gentlemen who required to go through a course of mercury; and these houses were always fully occupied—so seldom was it that a young man could, while living among his own family, undergo the severe discipline to which the surgeons of that day thought it necessary to subject him.
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> But from the time that Mr. Hunter's work on the venereal disease came to be generally read and acted upon by the surgeons of this city, the discipline became not only less severe, but actually as lax as Mr. Hunter himself could wish. Young men, pleased at the removal of these restraints, too frequently overstepped even the moderate bounds which were prescribed for them; and surgeons, finding that secondary symtoms frequently appeared in caess so treated, were glad to adduce Mr. Hunter's theoretical opinions of 'disposition to diseased action,' and so forth, partly to justify themselves, and partly to satisfy their patients; so that at length, from this, and perhaps from other causes, which I shall not now consider, those cases of primary venereal disease, which, under the old

practice, required six or seven weeks for their cure, were, under the new plan of treatment, found to require as many months, or even years. By the former, the disease was really and quickly cured; but, by the latter, it is only pursued from one resting-place to another, so that the patient's mind is often kept in a state of suspense and anxiety for very many months,—the symptoms disappearing for a few weeks, and then returning; and so this scene may occur over and over again, until, by some lucky chance in the treatment, or in the effects of the medicine, the system shall come to be finally relieved from the disease.

While I freely admit that excessive over-doses of mercury have inflicted the most severe evils, yet I as confidently affirm that within the last twenty years, the same medicine, when employed in under-doses, or rather when it has not been pushed so as to induce its legitimate action, has been productive of infinitely more mischief; and I feel confident that this position could be supported both by professional as well as non-professional persons were the effect of the latter practice as obvious and striking as those of the former; but they cannot be so fully appreciated by the ignorant, and they have not been sufficiently attended to by the profession." 37.

Of course the recollection of facts must be received with deference. But it must be owned that the recollection of facts, particularly when comparison is exercised, is apt unconsciously to be warped by speculative opinions. Under the influence of those opinions, we look at all objects through a mist, and, against our will and without our knowledge, they are distorted by the medium through which they are regarded.

We find it difficult to reconcile the reminiscences of Dr. Colles with general experience and common belief. It is now almost a canon of faith that, in consequence of the mitigation of the mercurial code, venereal cases have lost much of their severity, and that fewer victims are immolated at the shrine of syphilis. But Dr. Colles reverses the idea, and pronounces boldly that the contrary is the fact.

It is evident that the point is not to be decided by argument. It is essentially statistic. The elements of calculation not being before us, we shall not attempt to dogmatize on the results. But perhaps one or two observations may help the reader in arriving at an accurate estimate.

Dr. Colles contends, that if too much mercury was given formerly, too little is given now. He necessarily speaks from personal observation. It may be, and it probably is the case, that Dr. Colles has seen worse practice than ordinary in this complaint. We are induced to think so partly on account of the nature of the assertion itself, so contrary to all that we have observed, so contrary indeed to general observation—and partly because Dr. Colles has practised in Dublin, where Mr. Carmichael's views have been promulgated, and where they must exert considerable influence.

We readily grant that the mass of medical men have no fixed principles of treatment in regard to syphilis. They give mercury for a disease with which they are so imperfectly acquainted, that whether *that* goes right or wrong, they are equally at a loss for any criterion by which to regulate *its* use. The consequence is, that we daily see instances of mercury given for sores which it is aggravating, and discontinued when its cessation will almost certainly entail secondary symptoms on the patient. If *we* see this in London, Dr. Colles is more likely to see it in Ireland, on account of what we have already stated—the influence of Mr. Carmichael's doctrines.

It appears to us then, that a comparison between the past and present practice will differ with every individual who institutes it. As circumstances are or have been, he will find the one plan or the other more successful—a well-informed mercurialist of former days having been, we dare say, both a better and a luckier surgeon than an ill-informed practitioner of the present. In the following sentiment we coincide entirely with our author:—

> "No doubt, observation, experience, and sound judgment are very requisite to enable the practitioner to decide whether those changes which appear at the critical moment when mercury is about to excite ptyalism be really unfavourable and alarming, or whether they may be merely the natural effects of the mercurial action; this, however, is not the only instance which the practice of surgery presents, in which accurate observation, discrimination, and judgment are required to practise the profession with safety and success; these are qualifications which can only be attained by long and attentive experience; no precise rules, therefore, can be laid down to guide the surgeon at this critical juncture, neither can any words impart to him that practical knowledge, without which he cannot conduct the further treatment of the case with satisfaction to himself, or with true advantage to his patient." 39.

This is perfectly true. It is impossible to make what is called a practical man by books: nay, it is impossible to communicate any but the grosser part, the mere results, of practical knowledge. This consists in a quick observation and a nice discrimination of particulars—in an accurate and rapid calculation of probabilities—in a just application of those remedies to particular states, the applicability of which to those states has only been learnt by experience. We might as well attempt to describe all the tints in an Autumnal evening sky, all the hues of an Autumnal foliage, as to convey by words genuine practical information. In those who have it, it appears almost intuition; in those who have it not, the deficiency is too readily perceptible, and that even by common eyes. All that can be done by one who professes to instruct others, is to put them on the best method of study—to correct errors of principle—and to convey, as distinctly as possible, the great general results of practical experience.

This brings us to the termination of one, and the commencement of another chapter, in our author's book. The one on which we enter is appropriated to the examination of the methods of administering mercury—a subject of no trivial consequence to the practical surgeon or physician.

ON THE METHODS OF ADMINISTERING MERCURY.

Dr. Colles supposes that his patient is a young man, in good general health, affected with primary venereal symtoms. In such a patient, he is anxious to effect that ptyalism which our readers have learnt that he deems essential. He first speaks of the employment of *mercurial friction.*

This is more resorted to in hospital than in private practice, for obvious reasons. Patients object to the *bore* of it. There can be no doubt that it is a very valuable, perhaps the most valuable, mode of introducing mercury into the system in cases of venereal disease. It may be either a very active or a very mild method—adapted for severe, or for slight cases—and open to scarcely any objection except that which is founded on the trouble it occasions. Slight as that objection may appear in the eye of reason, it has nearly banished mercurial inunction from private practice in London. For ourselves we must say, that although we should wish to employ it often, we very seldom have recourse to it. As it is a powerful and a very manageable remedy, all surgeons should know *how* to manage it. Dr. Colles' being essentially a practical book we shall lay his plan before our readers.

> "The patient should be apprised of the necessity of rubbing in each dose of the ointment carefully, but not violently, and this he should do in the morning rather than at night, and for these reasons; first, the skin is soft in the morning and will bear friction better; and secondly the sleep will not be postponed or disturbed as usually happens when the nightly friction is employed, the patient being fatigued thereby, and thrown into a state of febrile excitement which is inimical to sound repose.
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> As to the mode of rubbing in the ointment, the patient should be directed to divide the whole quantity to be used into four parts, and then rub in each portion perfectly and successively, until all are consumed: it is better to apply it to one limb only on each day, as thus that pustular eruption, which is a common consequence of mercurial friction, is less likely to be excited. I prefer making the patient apply the ointment himself, whenever his strength will admit of the exertion, because the friction of his own hand is less uncomfortable, and less likely to produce irritation and eruption, than that of any other person, even though protected by a bladder ever so well prepared.
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> I do not advise the thighs to be shaved, as many surgeons do, because in a few days, when the hairs grow, and become stiff, more irritation is produced, and thus the tendency to pustular eruption is increased.
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> During the course of mercurial friction, the patient should wear the same drawers both by day and night; he will thus have some portion of the ointment constantly applied to the surface; some of which will probably be absorbed during the intervals between each friction. When the same part of the body has been rubbed two or three times, it is advisable to wash off the remains of the ointment with warm water and soap, and this ablution should be made the night before the next friction.
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> When we deem it necessary to employ mercurial friction with a patient who is in a very weak state, or more especially with one who is in a constantly feverish condition, we must direct the friction to be performed by some other person, to whom we should give the following instructions:—The servant should be furnished with a pig's bladder, which, after having been well steeped in warm water should be turned inside out, then well impregnated and softened with sweet oil or fresh lard. After this preparation, it is to be tied round the wrist of the assistant, and the ointment rubbed by him according to the directions already given." 42.

The dose for each friction is in Dr. Colles's practice ℥ss. If he is anxious to induce ptyalism rather early, he orders, at the same time, five grains of blue-pill to be taken every night at bed-time.

It must be admitted that this is very moderate treatment. We do not consider ourselves as violent mercurialists—the whole character of our practice, and, we think, the tenor of our observations, are the reverse of that. Yet, when treating primary syphilis in a healthy person by inunction we do not hesitate to order ʒj. to be rubbed in daily. Of course the continuance of the quantity hinges on the effect produced upon the patient.

Upon this point, we may quote a passage from Mr. Hunter's work.

"If it, (mercury,) is given in very small quantities, and increased gradually so as to steal insensibly on the constitution, its visible effects are less, and it is hardly conceivable how much may at last be thrown in without having any visible effect at all."*

If mercury is exhibited internally, Dr. Colles, to whom we return, prescribes five grains of blue-pill twice daily—a very judicious dose. If calomel is, for any reason, preferable, he gives two grains at bed-time. This we think rather under the mark. If purging is to be avoided, the mercury should be combined with a small quantity of some opiate.

With respect to the forms of mercury here mentioned we would venture to make these remarks. The blue-pill is the milder form, and suits most constitutions. If it does not gripe nor purge, there is no reason why an opiate should be added to it. If it does gripe or purge, opium, in a quantity varying from 1-12th of a grain to one grain or more should be combined with each five grain blue-pill. If the latter, however, guarded purges, the mercurial inunction should be used. An occasional aromatic rhubarb draught frequently prevents the blue-pill from griping or purging.

Calomel seems best adapted for strong habits and inflammatory cases. In the latter it should be combined with purgatives, or with opium according to circumstances. As a general rule, calomel should be avoided in the treatment of primary syphilis. Yet a dose or two of calomel and James's powder, followed by saline aperients, is a very good introduction to a mercurial course, whether of inunction or blue-pill. Such are the results of our experience.

About the fourth day, remarks Dr. Colles, we usually find, on *interrogating* the patient, that a metallic taste in the mouth, and other symptoms indicate the coming ptyalism. About the sixth or seventh day, this is usually established. Dr. Colles insists on the surgeon paying the most strict attention to the patient from the third to the seventh day. It is at this period, he observes, that the attentive and judicious surgeon can be of essential service by giving a right direction to the medicine, as well as by counteracting any injurious effect it may produce. Thus during this critical period, the patient is liable to attacks of griping, frequent desire to go to stool, and tenesmus; these efforts are attended with only slight evacuations, which chiefly consist of mucus tinged with blood; sickness of stomach and vomiting also often supervene, the skin is hot and the pulse quick; all which phenomena are explained by the fact that the specific influence of the mercury has taken effect upon the alimentary canal instead of the salivary system. This dysenteric affection so generally appears at this period that the patient should be forewarned and prepared for it. He should be directed to discontinue the use of the mercury, as soon as he feels this uncomfortable effect, and he should be provided with draughts, containing each Tinct. Rhei. ʒj. Tinct. Opii gutt. xx. in any appropriate vehicle; one to be taken after each dysenteric stool. An opiate enema may be used instead of the draught, whenever the stomach rejects the latter. A gentle diaphoresis also should be encouraged by the tepid bath, or by bathing the feet in warm water. In the course of a day or two this febrile excitement will, under this plan of treatment, have somewhat subsided, the bowels will remain free from disturbance, and then we shall generally find that the mouth has become a little more affected; and should we wish to have it still more so, we may resume the use of the mercury, and continue it in such doses as the circumstances of the case may require. Dr. Colles goes on to remark, that, sometimes the mercury displays its effects in a somewhat different manner. The patient has fœtor and soreness of the gums, which ulcerate more than they should do, but he has no augmented flow of saliva. In such cases there is usually too much fever. If the mercury is continued, there is more severe ulceration, and perhaps the fever becomes alarming. This is what the lower order of the Irish call "a dry course" It does not cure the disease. It may, however, says our author, be converted into the full and legitimate ptyalism by reducing the doses and lengthening the intervals between them, and at the same time using such means as are calculated to reduce the rather high degree of fever which attends this peculiar condition of the mouth.

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* "To give an idea of this, ten grains of the ointment used every day, during ten days, affected a gentleman's mouth. The ointment was of equal parts of mercury and hog's-lard. But, by means of omitting the ointment occasionally, and returning to the use of it, he at last rubbed in eighty grains every night for a month, without having his mouth, or any of the secretions, visibly affected."

In a few patients, the mercury affects the throat and not the gums. Such persons complain, about the fifth or sixth day, of a sore throat.

> "On inspecting the fauces, we discover a degree of erysipelatous blush on the arches of the palate, and some inflammatory thickening of the velum palati; on the tonsil, and generally at its upper extremity, we see a superficial ash-coloured slough; one side only may be thus affected, or both may be engaged in it. I need hardly say, that in such a case a further persistence in the full doses of mercury would not only prove ineffectual for the relief of the venereal symptoms, but would also be attended with considerable danger to life, by inducing a sloughing condition of the fauces." 45.

Mercury, in such a case, must be withheld or much diminished in dose. The inflammatory condition of the throat must be set at rest, and the mercury then resumed. It may or it may not be borne well. The patient requires to be carefully watched.

Such are the sentiments of Dr. Colles on this important subject. So far as our own observation has extended we should say, that, in the main, it coincides with that of Dr. Colles. The practical rules at which our experience has enabled us to arrive, are these:—

1. To prepare a patient for a mercurial course, by low living, smart purging, preventing exposure to wet and cold, and mild local applications.

2. To enjoin during the course, moderate and regular, but not very low living—little exercise, and that gentle—the sedulous avoidance of wet, cold, and night air.

3. To make a point of watching the patient closely, and insist on his presenting himself every three or four days. If pyrexia occurs, no matter what its cause, to prescribe such remedies as are calculated to remove it, and to diminish or suspend the mercury until the pyrexia has subsided. We are sure that this is highly important, for either fever or local inflammation is a primâ facie reason for discontinuing the employment of mercury as a specific. It may in some cases be advantageously combined with diaphoretics or with purgatives, but in others it must be abandoned, during the continuance of the inflammatory state.

4. To observe whether the patient loses flesh and becomes lowered, and if he does, to give sarsaparilla, or some mild tonic, with the mercury, and to

allow a more generous regimen. This is a point of great importance. Some persons if once allowed to be much pulled down by the mercurial course, are scarcely able to shake off its consequences. They continue pale and thin, and out of health for a long period, and not unfrequently, phthisis, or some malady indicative of constitutional debility, silently steals on, and carries them off.

5. On the whole, we would sum up what we have learnt in a few words:—to ensure a *full* mercurial course—to discontinue or modify mercurial remedies if inflammation or fever is set up—to maintain the general health. The details of such treatment will vary with the nature of the case, will be regulated by the judgment of the surgeon, and will materially influence the fate of the patient.

We cannot say that we attach so much importance as Dr. Colles seems to do, to the precise time at which ptyalism is induced. Nay, we are not so impressed as he is with the necessity of ptyalism at all. It is true that his notions of ptyalism are moderate, and it is true also that the quantity of mercury he gives is rather under than over what we prescribe. Substantially, then, we agree, for neither he nor we think the patient secure with a less efficient course than we employ. But, still, we repeat that we suspect there is a little hypothesis in our author's minor opinions. Take the following passage as an instance.

> "I have been thus particular in stating at what period the surgeon should wish ptyalism to commence, when using mercury for the cure of primary symptoms, because I am firmly convinced, that he cannot count upon a cure, if the salivation occur at a period much different from that above-mentioned ; for should it be suddenly excited, and even though not very profuse, it will yet leave the disease uncured : perhaps the primary symptoms may be removed by it,—oftentimes they are not ; but at all events the secondary symptoms will not fail to make their appearance, sometimes in full vigour, though often under a more subdued form. This I have seen repeatedly exemplified in cases of iritis, treated by calomel alone, or by calomel combined with frictions. I have also repeatedly seen mercurial fumigations which were used to stop a destructive ulceration of the throat, produce a speedy and profuse salivation, by which the ulceration has generally been stopped, but in almost every such instance the other venereal symptoms were only checked for the moment, to return with renewed vigour. And here I must remark, that after such sudden and profuse salivations, I have uniformly found the symptoms were very unmanageable, and by no means yielding in the usual way to a subsequent use of mercury.
>
> On the other hand, if the salivation be very late in appearing, not only will the patient have to lament the loss of so much valuable time, but the surgeon will too frequently find that the system of his patient has been so irritated by this protracted, though moderate use of mercury, that the ptyalism excited at this late period, is not borne with the same ease by the constitution, nor is it productive of the same improvement in the symptoms that would have resulted from it, had it come on at an early period of the treatment." 47.

We must say that we have again and again seen patients undergo a mercurial course, and exhibit no ptyalism at all worth speaking of, without any secondary symptoms ensuing. We have seen this so often, that we care little about the occurrence of ptyalism, provided a certain quantity of mercury is taken for a certain time, and that certain other effects are discernible.* If this be true, and our senses seem to tell us that it is, we cannot go all the way with Dr. Colles.

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* The removal of the induration of the cicatrix, for example.

But much that he tells us is strictly correct, and as important as correct. Profuse salivations, rapidly excited, have under our observation been followed by such consequences as Dr. Colles mentions. Many of the miserable cases of cachexia which we witness have had their origin in salivations of this description. But to proceed.

When the desirable action of mercury is once obtained, it is easily kept up in the majority of instances. We quite agree with Dr. Colles, that it is better to prescribe too long than too short a course. If *the general health is maintained*, and it may be so, we never saw any mischief arise from the *very long-continued* use of mercury. But we have seen (and who has not?) many and many a case of secondary symptoms after a very short course.

If the mercurial action sinks too low, Dr. Colles has found it most advantageous to give pretty smart doses of calomel, viz. three grains, with one of capsicum, two or three times a day, at the same time that the former doses of the ointment are resumed.

Dr. Colles next examines the untoward circumstances which occasionally present themselves during a mercurial course. It is always well to ascertain from a patient if he has undergone a mercurial course before, and, if he has, whether it was attended with peculiar effects.

A. Some patients are salivated by very small quantities, even by single doses of mercury. Such an event is to be deprecated. If it occurs, or if it threatens, the patient should be much in the open air, live generously, and take a diminished dose of the mercurial, at more distant intervals. The remedy must be insinuated into the system. If judiciously managed, such persons will frequently bear sufficient quantities of mercury at last.

B. In some persons, the ordinary quantity of mercury produces too trivial an effect. The quantity of the medicine must be increased This requires great judgment on the patient's part, and no precise rules can be laid down. The following are Dr. Colles' views upon the subject—one of no slight moment.

When, he says, the dose is to be increased, it certainly ought not to be less than one half, and sometimes it may be doubled at once; the former proportion will probably be the better. If the patient has been employing mercury both, by friction and internally, the dose of both should be increased, but if he has been using friction alone, then this should be continued at an increase of one-half, and he should take in addition five grains of the blue-pill every night. If in such cases we did not *early* increase the doses, the system would become familiarised to the mercury, and at a late period we should employ very large doses, and thus run the risk of exciting a profuse and dangerous salivation.

The plan pursued in such a case, one in which the patient's future safety is at stake, will vary with the speculative views of the surgeon. If, with Dr. Colles, he thinks salivation indispensable, he will augment the dose of mercury, until that is obtained, or so far as it is prudent to proceed with the object of obtaining it. If, with ourselves, he looks for salivation with less anxious anticipation, he will be content with the manifestation of other effects of the remedy, and with the conviction that his patient is taking that quantity which he knows by experience usually cures.

We would remark that, whatever be the views of the surgeon, he has always the means of increasing the action of mercury, by augmenting the temperature in which the patient is kept, and by lowering his constitutional powers. A certain dose of mercury may exert no perceptible influence on a man who is eating meat daily and drinking porter or wine. But confine that same man to slops, make him use the warm-bath, and probably a smaller dose of mercury will salivate him.

> "We sometimes find in other constitutions, that two or three doses of mercury induce a feverish state of the system, without the peculiar fætor of the breath, or any of those other symptoms that indicate the approach of ptyalism; the skin will be hot, the pulse quick, with great general restlessness; under these circumstances, we infer that the mercury is disagreeing with the system, and should we now either continue its use, or increase the dose, we shall only add to the mischief by increasing fever; and if we still persevere, we may endanger the life of the patient; in general, however, he is soon reduced to such extreme weakness, and is so sensible of becoming daily worse, that he will himself oppose any further use of the medicine. Whenever this febrile state of the system, unaccompanied by any sign of its acting on the salivary organs is thus early induced, we should at once desist from the further use of mercury, and endeavour to allay the fever by exposure to cold air, and by the adoption of such other means as may be best suited to the circumstances of each case. Having accomplished this, we must allow some time for the recovery of strength, before we venture to resume the mercury; and when we do so, we should begin with smaller doses, and these at longer intervals, for experience has shewn us that the former quantities were such as overpowered the system. We must also endeavour to obviate any febrile action by occasional purging, by tepid bathing, and by the frequent use of mild diaphoretics; we are now to proceed cautiously, increasing the strength and frequency of the mercurial doses, until we gain the desired object, namely, a genuine and wholesome salivation. Here I would observe that this difficulty is not an uncommon consequence of plunging a healthy vigorous patient into a course of mercury without any previous preparation." 53.

All this is so practical, so judicious, that we have not a word to add to it.

D. Not unfrequently individuals resist obstinately, the effects of mercury without having any fever induced. The sore pursues its course apparently uninfluenced. Under these circumstances, the mercury may be discontinued, or, as is usually the case, the dose of it may be increased. Dr. Colles has known two drachms, and even half an ounce of ointment, ordered to be rubbed in each night and morning, and at the same time large doses of Pil. Hydrarg. Calomel, or Hydr. Calcinat., given internally for some days; the result of this practice has been, that in some cases it has produced that general weakness and that tendency to faintness which mark the approach of erethismus. Then, of course, the remedy is abandoned.

In some instances, these excessive doses induce a violent ptyalism. We need not picture *that*. Some of our readers may have seen, all may conceive it. Such ptyalism may succeed in curing the disease for which it was excited, and which it almost exceeds in evil, or it may leave the unhappy patient with his original malady still afflicting him—a miserable position.

E. Dr. Colles considers the method of avoiding the various ills that have been mentioned.

If we ascertain that, on former occasions, the patient has been nearly insensible to the action of mercury, we should begin, says our author, with small doses, at longer intervals than usual; or, if we have commenced with the ordinary doses, we should not persevere with them, but should purge the patient repeatedly, enjoin low diet, and prescribe the frequent use of the warm bath.

> "It has sometimes happened that, during the employment of these last mentioned means, a safe and mild ptyalism has supervened a few days after the mercury has been laid aside. This apparently anomalous fact is no weak proof that the cause of our failing to produce the desired effect in the first instance, was owing to the mercury having been administered in an injudicious, and as it were in too forcible a manner. But if with this treatment, no signs of ptyalism should appear, we must still persevere in the same constitutional means, until we conceive that the system is totally free from all mercurial impregnation; to induce this state may occupy twelve or fifteen days. We then commence a new course of mercury, and, taught by our former experience, that full doses of the medicine failed to produce the desired effects, we now direct it in very small doses, but at the same time we persevere in the same constitutional remedies as before; after a few days passed in this way we are sometimes pleased to find the signs of an approaching salivation gradually advancing in the very manner we are so desirous to effect. It appears to me, that this very precept which has been just inculcated, is the great secret which will serve to guide us in the management of those cases which have hitherto often excited great uneasiness in the mind of the surgeon; and it is a remarkable fact that this obstinate state of the system to admit of the influence of mercury, is not unfrequently met with in those very patients, who on former occasions had been salivated rather too quickly with the ordinary doses of mercury, and that too by the very same surgeon who is now so baffled in his attempts to produce the same effect. If surgeons of much practical experience will endeavour to recal to their recollection all the circumstances of such cases, I believe they will find, that on the latter occasions in which they had to treat such cases, they were very anxious that the effects of the mercury should be quickly established; now, in my opinion, this very anxiety, by inducing the surgeon to urge the mercury too freely, has been one source of its failure, and of the disappointment of his surgeon." 57.

There can be no doubt of the value of the preceding practical precepts; but we are not so sure of the soundness of the reasoning. Dr. Colles says, that the larger doses of mercury fail to affect the system, because they are given in too forcible a manner. It appears to us that the smaller doses do the business, not because they are smaller, but because they are conjoined with purgatives, low diet, hot baths, &c., means well calculated for promoting absorption, and for quickening the action of any medicine. Were the same large doses of mercury conjoined with the same constitutional treatment, the effect of the former wonld not, we fancy, be less, but greater. This, however, is a speculative question. We quite coincide with our auhtor in his practical directions.

F. Dr. Colles has met with eight or ten individuals on whom mercury did not act as a sialagogue at all. Yet their venereal complaints were cured. This rather bears against his opinions respecting the necessity for ptyalism.

G. The general directions given to patients by Dr. Colles are to avoid exposure to wet or damp, to cold or to night air. After a mecurial course, persons are subject to rheumatic pains; they generally too grow corpulent.

Dr. Colles takes no notice of a tendency to jaundice after a mecurial course. Yet we have seen several examples of it. The reason would appear to be, that the liver having long been stimulated by the mercury, and that stimulus being discontinued, is liable to perform its functions irregularly. We always recommend patients to regulate their bowels very carefully after the termination of the course.

H. Dr. Colles makes some lengthened observations on the mecuria eczema. His descriptions are accurate, his precepts judicious; but all tha requires notice is the advice he offers on the treatment of those persons (fortunately few), who evince a strong disposition to suffer from the eruptio on taking small doses of the medicine. The plan, he says, to pursue is this in addition to the purging and warm bathing, which have been alluded t before as a judicious preparatory course, we should enjoin the patient t wear lighter clothing than usual, to exercise in the open air, during th greater part of the day, to keep the windows of his sitting-room pretty constantly open, to keep on light covering at night, to live abstemiously, and on food of the stimulating quality. The mercury should be administered at first in extremely small doses, and at long intervals; by degrees the former may be increased, and the latter shortened, in proportion as we find the medicine agree with the system.

I. "We should carefully distinguish between erythema mercuriale and another, but more partial, eruption arising from the use of mercury. They both come on under similar circumstances; both seem to be excited by the first impression of mercury on the general system. Our attention is attracted to this latter eruption by our patient informing us that he fears he has got the itch, that he could scarcely get a wink of sleep for one or more nights preceding. He then exhibits on his hands and wrists an eruption beginning with small but very distinct red papulæ, some of which, in a more advanced stage, have vesicles on their apices: they chiefly occupy the anterior surface of each wrist, and of the fore-arm half way up to the elbow; the backs of the hands and fingers are also thickly beset with them. On first view, this eruption closely resembles a form of itch, in which the vesicles are small; but on more careful examination you discover that the clefts between the fingers are altogether free from the former, while they are known to be the principal seat of the latter. This eruption is accompanied by a slight degree of fever, and generally by marks of commencing ptyalism.

I cannot say what changes or effects on this eruption would be produced by persevering the use of mercury, because all the patients in whom I witnessed this symptom were also affected with a smart degree of fever, and complained so bitterly of the itching and of the restlessness caused by it, that I felt afraid to go on with the mercury until the irritation of this eruption had subsided. A few days use of the antiphlogistic regimen, and abstinence from mercury at the same time, were sufficient for the desquamation of the pustules, and the removal of this rare effect of the mineral." 67.

K. "Another effect of mercury, allied perhaps to the foregoing, which the surgeon should watch for, is an excoriation of the skin on the corresponding surfaces of the scrotum and thighs. If this be discovered in its commencement, it will be seen as an excoriation in the very angle between the thigh and scrotum; from this it spreads over the entire extent of the opposed integuments of these parts, and a profuse discharge of a very fætid nature takes place." 68.

Dr. Colles goes on to obseve, that, in addition to the parts already mentioned, this disease will also affect the skin in the vicinity of the anus, where the integuments of the nates lie in contact with each other. Occasionally, too, we meet with instances where this disease affects only the skin in the vicinity of the anus, while the scrotum and adjacent skin of the thigh remain perfectly free.

The duration of this affection, says our author, varies from eight to fifteen or twenty days. For the relief of all these sufferings we find opium unavailing; it fails to procure any continued sleep. The antiphlogistic regimen scarcely moderates the fever. The most immediate and most effectual relief is procured by local means; the most efficient of which is dusting the excoriated parts with equal parts of lapis calaminaris and starch, very finely levigated: this is to be laid on pretty thickly, and then a fold of old linen interposed between the two adjacent skins. Another application, which often procures immediate ease, is the black wash of aq. calcis and calomel; the affected parts are to be kept asunder by lint constantly moistened with this lotion.

We must confess that we have never seen this affection as a consequence of mercury, though we have seen it several times as a venereal symptom. Dr. Colles offers no sort of evidence of its mercurial origin, indeed the only case he relates rather tends to disprove such an opinion, and an observation which he offers tends also the same way. The case we need not quote—the observation we may:—"a repetition of the same forms and doses of mercury which are supposed to have given rise to the excoriation, may, when the excoriation is once healed, be resorted to again without reviving it." Now we do not find this to be the case to any thing like the same extent with other bad effects of mercury, and, so far as it goes, it rather militates against the notion that mercurial influence is at the bottom of the symptom. Be this as it may, we will present Dr. Colles' concluding exhortations with respect to the plan to be adopted when this or other complications have occured:—

> "Let us then bear in mind these facts; that each and all of these untoward effects of mercury are owing to the first impression of this medicine on the system; that on the subsidence of this state, the mercury may be used as freely and as long as can be required for the treatment of any venereal symptom, (or indeed for the cure of any disease curable by mercury,) without the danger of reproducing the same condition. Let us then, during the early period of a mercurial course, say from the second to the twelfth day, anxiously watch and guard against these untoward occurrences; but as soon as we have brought the system once fairly under the influence of this medicine, let us dismiss all fears and anxiety on this head, and now direct our whole attention to the changes in the venereal symptoms, to the degree of salivation, and to the strength and general health of our patients. The salivation once fairly established, we may consider ourselves as having escaped the chief dangers of a mercurial, course and as now being on the high road to a certain cure. We now may be confident that the mercury will not act (as it too often does) as a poison, instead of its proving one of the most active and beneficial remedies in the materia medica." 71.

We are as decided advocates for the use of mercury in syphilis as Dr. Colles is—as impressed as he, with the folly of prescribing an inadequate course. But we cannot go the length of reckoning salivation as the great safeguard against all accidents—no more than we could subscribe to the opinion that its presence is necessary for a cure. In reference to the latter point, we repeat that we continually see patients perfectly cured who cannot be fairly said to have exhibited any thing like ptyalism; in reference to the other point, we can positively affirm that some of the very worst cases we have seen of the bad effects of mercury have been those in which salivation *was* excited and maintained. Perhaps the ambiguity of language, and a certain difficulty in composition may obscure or pervert the sentiments of

Dr. Colles, and may make him seem to say what he does not strictly mean. This is not improbable. But his less experienced readers will read the text as it is written, and attach to it no other sense than what appears upon the surface. We think it necessary to record our dissent from the apparent doctrine inculcated; because we believe that, if literally understood and unreservedly acted on, it would lead to unfortunate results.

There cannot, perhaps, be a more pregnant instance of what we must consider fanciful hypothesis, than the attempt of Dr. Colles to shew that the mercurial erethismus, occurs only in cases where ptyalism has not been obtained. We have lately witnessed a fatal instance of this very affection, now, fortunately rare. In that instance, a few doses of calomel excited a furious salivation, the mercurial erethismus followed, the pulse grew rapid and irregular, the limbs were affected with general tremors, the countenance was of a deadly white, the depression was excessive, and, in this condition, the patient died. Mr. John Pearson, who saw too many cases of the erethismus, for in his time mercury was given in large quantities, and the salivations were excessive, states that the subjects were men who had nearly, and sometimes entirely, completed their mercurial course. Is it likely that such men had not been affected, more or less, with ptyalism? On the whole, we conceive that our author's ideas on the sovereign virtues of ptyalism approach rather closely to what is called a crotchet.

This concludes the portion of the work devoted to the examination of the best mode of administering mercury for the cure of syphilis. The subject is important—too ill-understood, and too little considered by the bulk of medical men—beset with many difficulties at the best—obscured by prejudice, by ignorance, and by hypothesis—and in need of all the light that can be thrown on it by reasoning and by practical experience. An article on such a subject is not misplaced in the pages of a journal avowedly conducted on utilitarian principles. If inexperienced readers acquire any useful information, and if experienced ones are led to reflect more on what they see, and to communicate what they may learn, the purposes of utility will have been served.

Dr. BLAKE ON MONOMANIA.

Dr. Blake is well known to the profession by his original and standard work on Delirium Tremens, as well as by several other valuable publications. As physician to the Lunatic Asylum near Nottingham, he has of late years had excellent opportunities of studying insanity in all its varied forms—opportunities which, it is evident, he has not failed to turn to good account. The occasion of his present appearance before the public is as creditable to his humanity, as the matter of it is to his knowledge of mental disease.

At the last Summer Assizes for the County of Nottingham, a man named Greensmith was tried for the murder of his four children, whom he had strangled a few months previously. Between the perpetration of the unnatural crime and the period of his trial, Dr. Blake had three times (at long intervals) visited the prisoner in his confinement, and had satisfied himself that he was labouring under melancholic monomania, and that he had perpetrated the crime under the delusion, that it was better his children should die by his hands, and that he himself should suffer the utmost penalty of the law, than that he and they should be reduced to want. Strongly impressed with the conviction above-mentioned, Dr. Blake attended the trial as a witness, and the following is a brief summary of his evidence. He deposed, "that he had visited the prisoner on three several occasions, viz. at the time of his commitment, and twice since; the last time was about a fortnight ago. He had been in Court ever since the evidence of the surgeon had been tendered, but not before. His visits to the prison were in consequence of its being rumoured that he was insane; and as physician to an asylum for the reception and cure of such parties, he felt it to be his duty towards the prisoner, and towards society, to ascertain how far that rumour was founded on fact. With respect to the conduct of the prisoner, the most minute, and in fact the only account, was to be found in the prisoner's own deposition. That deposition he at first attentively perused, and he was of opinion from its statements, that the prisoner laboured under a *delusion*, and that the act arose from *that delusion*. On visiting the prisoner, he was confirmed in this opinion, and could corroborate the facts deposed by Mr. Attenburrow.* The prisoner, when questioned, had admitted that he had a sister, who had been, some time since, under the care of witness for lunacy and mental derangement. Witness was not aware of this, nor did he remember it at the time, but on examining the books of the institution, he found that it was so, and that she had laboured under the same kind of impulse to destroy life, &c. &c. She is now a cook, employed occasionally in families: she came to the Asylum five years ago; and he had *understood* that her grandmother laboured under a similar infirmity." (The learned judge objected to this part of Dr. Blake's evidence, as being equally remote from fact, or medical opinion founded on fact.)

By the Counsel for the prosecution.—"It appeared to him that the prisoner has laboured under a delusion of the imagination, that it was better for him, and for his family, that he should destroy his children and be executed for the act, than let them go to the workhouse."

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* This gentleman stated, "that when he visited the prisoner, as surgeon of the county jail, he appeared composed and unmoved by any allusion to the position in which he was placed, by the commission of the crime with which he was charged; that his pulse was slow, being seldom above 60 in a minute; that the tongue was white and thinly furred, as may be remarked in almost all melancholic patients, and that he slept but little at night; while his appetite for food was exceeding good, such as insane persons often evince, notwithstanding the foul appearance of the tongue, and the sluggish state of the circulation." To this account of symptoms Dr. Blake adds, "the peculiar monomaniacal cast of eye was strongly apparent in the prisoner's looks, and when I spoke to him of his execution being the natural consequence of his crime, he answered without emotion, that he expected nothing else, while the pulse on which I kept my finger, did not vary a single beat in a minute; but on the contrary, when I asked if he had not been attached to his children, he evinced immediate and considerable nervous agitation, and shed tears abundantly."

On the foregoing evidence Mr. Justice Park (who tried the case) commented as follows:—"The physician who had stept forward to urge the plea of insanity on behalf of the prisoner, had stated a doctrine very opposite to this," (the Judge alluded to Sir Matthew Hale's definition of criminal responsibility) "and one which was altogether inadmissible in a court of justice: and which gave him some surprise, when he heard it advanced by a Gentlemen, occupying so important a station in society. Nothing could be more contrary to law, than to infer insanity from the very malignity and atrocity of the crime. It was true, that such crimes could never be committed by men who were in possession and control of a right reason and a proper mind; but it was his duty to inform the jury, that the complete possession of reason was not essential to constitute the legal, any more than the moral responsibility of any man; it being merely necessary that the party should have sufficient knowledge and reason to discriminate between *right* and *wrong*."

These remarks were contained in the Judge's address to the Jury, who returned a verdict of "guilty," and the prisoner was in consequence sentenced to undergo the extreme punishment of the law.

But Dr. Blake did not let the matter rest here. He instituted a correspondence on the subject with the Secretary of State, to whom he addressed two letters, which have since been published. They are now before us, and our conviction, after a careful perusal of them, is, that the prisoner was decidedly insane both at the time of committing the crime, and up to the period of his trial. In these letters Dr. Blake disclaims the doctrine attributed to him by the learned Judge, a doctrine which would "infer insanity from the very malignity and atrocity of the crime." He shows that he by no means rested his conclusion upon this *circumstance alone, but upon a union of all the facts connected with the case.* With many of these, however, the Jury unfortunately could not be made acquainted, for the prisoner had taken no care to provide counsel for his defence, and those benevolent individuals, who, believing him insane, took an interest in his case, had erroneously calculated on obtaining, in his behalf, the appointment of a Crown advocate. In consequence of this omission, several witnesses, whose evidence would have been sufficient to circumstantiate Dr. Blake's views, were either not examined, or were examined so imperfectly, that their testimony had not the effect which it otherwise must have had. Some of them could have deposed to the undoubted insanity of the prisoner's grandmother, uncle, and sister, the last of whom, (as Dr. Blake stated in his own evidence, and as might have been legally proved) had felt not only the same kind of impulse to destroy life, but the exactly similar desire to destroy her children as her brother. "The learned judge (continues Dr. Blake, addressing the Secretary of State) objected to my remarks on the similarity of the delusion, and said it was *sufficient* for me to state, that the sister had been confined in an asylum. Your Lordship will observe, no allusion has been made by the Judge to this important fact, namely, the similarity of the delusions of the brother and sister, in his charge to the Jury. Now, my Lord, I do not presume on legal knowledge, but it appeared to me that this coincidence regarding a brother's and a sister's delusion, was a circumstance worthy of notice by all those who admit the *hereditary* influence of insanity, and one which, had the prisoner had a Lord Erskine to plead for him, would not, I apprehend, have been passed over in silence."

The learned Judge, after having found fault with the grounds on which I drew my conclusions, is made to say, "that it was his duty to inform the Jury that the complete possession of reason was not essential to constitute the legal, any more than the moral responsibility of any man; it being merely necessary that the party should have sufficient knowledge and reason to discriminate between right and wrong."

I would respectfully quote Lord Erskine's opinion against this. His Lordship's proposition is, "that, to absolve from criminal responsibility, there must, first, be *delusion*; and, secondly, the *delusion* and the *act* must be connected." Now, in my opinion, this was exactly Greensmith's case. He was predisposed by hereditary taint to insanity; and the loss of his wife, and pecuniary distress, brought on the delusion under which he acted.

Lord Erskine, in his celebrated* defence of Hatfield, who attempted George the Third's life, says, "In *all* the cases which have filled Westminster Hall with the most complicated considerations, the lunatics, and other insane persons, who have been the subject of them, have not only had the most perfect, knowledge and recollection of all the relations they stood in towards others, and of the acts and circumstances of their lives, but have in general been remarkable for subtlety and acuteness." This is not the Hon. Judge Park's opinion; but it goes in direct opposition to it to establish, that a man may commit an insane act under a delusion, and consequently be exempt from responsibility, although he may, at the same time, possess memory, and a knowledge of the relations in which he stands towards others, and of the acts and circumstances of his life, and consequently possess reason to discriminate between *right* and *wrong*. This, my Lord, is an axiom too well established in the opinion of persons conversant with the subject of insanity, to require further consideration. Many persons are sane on all but one subject; and that may be a desire to destroy their offspring; while they may be sensible of the enormity of the crime, and yet be incapable of resisting it. There is at present under the surveillance of the governor of the Nottingham workhouse, a female who could scarcely resist the propensity she felt to destroy her children, and only found security from the commission of the crime (*of the enormity of which she felt a due sense*) by absenting herself from her home. We have also, in the Nottingham asylum, a female, who feels such a strong suicidal tendency, that she cannot live out of the asylum, lest she should yield to her feelings, on which she will converse rationally. Writings on insanity abound with examples on this subject, but I only quote cases now existing in Nottingham.

Again, in answer to that part of the learned Justice Park's charge wherein he says, "The duty of the jury was to inquire and decide whether the prisoner at the bar was able to judge between right and wrong at the time that he committed this horrible deed." I shall offer the well-known case of Jonathan Martin. I saw this deluded man a short time previous to his trial, when I was stationed at York as surgeon to the 7th Dragoon Guards. I visited him in the jail, accompanied by Dr. Wake, the physician to the lunatic asylum. I asked him if he was not aware that he was doing wrong when he set fire to the Minster, and liable to be hanged for so doing. His answer was, "Yes, according to the law of man, I know I was; but as I had the command of GOD to do so, HE will protect me if HE pleases; and if it is HIS pleasure that I should die, I am ready to comply with the Divine will." I saw him since at Bethlem, and asked him if he recollected seeing me at York. He said, "No; but since you speak of York, perhaps you can tell me if the Minster is restored." On my answering in the affirmative, his remark was, "I hope they will make a better use of it." On every other subject he was perfectly rational, and appeared to possess ten times more intellect than the unfortunate man, whose case I advocate, ever displayed. How did it happen, then, that Judges were found to acquit Martin on the grounds of insanity, if a knowledge of right from wrong was to constitute the test of a man's criminalness or innocence? But the fact is, poor Greensmith had no one to plead for him at his trial. The only kind of question put, in favour of the prisoner, to the witnesses against him, was, "Did you, at any time, perceive that the prisoner evinced symptoms of insanity?" Such questions could not draw from witnesses of the class that were examined appropriate answers on the subject. They who, one and all, stated that the prisoner was a *kind* father and a *sober industrious* man, could see nothing of insanity in his conduct; but had they been asked if he was taciturn or talkative, or melancholy or gay, or was he seen to shed tears without apparent cause, and such like questions, the truth would have come out; and had the prisoner possessed the slightest intelligence necessary for the protection of his life, he would have had witnesses ready, and an advocate appointed, who would have quoted authority to show the jury, that precedents existed where a prisoner was acquitted who knew right from wrong, although he actually fired at a king!! But, alas! he was totally incapable of any mental exertion. Indeed the probability of his execution formed a part of his delusion. and of course deprived him of mental powers on that particular subject.

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* The trial took place before Lord Kenyon, who assented to the principle, as did also Lord Redesdale, who was then the Attorney-General.

To give your Lordship an idea of the disadvantages under which the prisoner laboured by not having counsel, I beg to submit one fact. Mr. Attenburrow, the surgeon of the county jail, wrote two questions, and requested the counsel for the prosecution to put them to a witness, Anne Greensmith. The first question went to ascertain if the prisoner had ever asked the witness to come and stay with him until he procured a housekeeper. This question the counsel put to the witness, but the second question he omitted. Now the second question would have elicited an answer proving the existence of delusion, connected with destructive feelings, so far back as before his last housekeeper came to live with him—a fact which, when properly stated by counsel, must have had due weight with the jury. I deplore the loss of this evidence, because it was essential, and must have been brought forward had he had counsel. But I do not wish to insinuate that the learned counsel for the prosecution suppressed the question intentionally, as he could *not* have known the answer which it would have elicited. I beg also to call your Lordship's notice to that part of the charge where the Judge particularly directed the "attention of the jury to that *act of reason* manifested by the prisoner in stating to Brownrow his motives for keeping away from Basford, and wishing to be denied to all who inquired for him." Here again, I respectfully differ from him. I consider that no sane man would, after having left four children murdered at Basford, caution a man of a near neighbouring village, who knew he was from Basford, to deny him to all who inquired after him. This gleam of self-preserving reason was that what often returns for an instant after the accomplishment of crime dependant on delusion.

Jonathan Martin ran away, after he set fire to the Minster and was only taken in the extreme north of England; and yet he was not condemned. In another part of the Judge's charge, he says: "After destroying two of his children; he went down and sat by the fire considering:"—but what did he consider?—This the Judge has omitted to state. He considered, whether he might not be capable of maintaining two of them. Was this, even for an instant, the consideration of a sane mind? How could he expect to be allowed to maintain them?—reason, aided by the *love of his children*, made an effort to arrest him in his crime; but his original delusion of destroying the whole, and being executed *to save them from going to the workhouse* prevailed. "The result of his consideration," the Judge says, "was an opinion and belief that he should suffer what the law allotted, whether he proceeded with his first intention or not, and therefore, that he would go on with it." Although I do not wish to attempt to prove the existence of a delusion in the case from the enormity of the crime alone, yet I think it will be admitted, that if a sane person formed the project of destroying his children, he would not have accomplished his wicked design, in the *manner* in which Greensmith did. The calmness in the manner of this man after the act, on which the Judge lays so much stress, is also in my mind, a proof of his insanity. It is only hardened offenders, accustomed to steep their hands in human blood, or *persons affected with insanity*, who have the power to commit crimes such as this, without evincing any fear or repentance. Now this unfortunate man, as was proved in evidence, was anything but one given to commit cruel crimes; hence I must, with all due respect, again differ from the learned Judge in his conclusion. Indeed, I differ from him in considering that so atrocious an act, so contrary to the best feelings of human nature, without any one rational motive, without any hope of gain or worldly advantage, without anger, (for he took affectionate leave of his children before he destroyed them, and again, before he finally left them,) could have been perpetrated by an individual so tender in his affection, so sober, and so industrious in his habits, as he was proved to be, if he were not labouring under a delusion!

"In conclusion, (continues Dr. B. in an Appendix to the letters,) I beg it to be well understood, that in venturing to differ from many highly enlightened and humane persons on the question of the propriety of Greensmith's execution, I do so with the greatest deference: and solely from a moral conviction, arising out of my experience in cases of insanity, together with the evidence which I was enabled to collect relative to the prisoner's state of mind, that he laboured under a delusion when he destroyed his four children. I am fully aware, also, that a number of very just and intelligent individuals entertain the opinion, that such an atrocious crime, ought, if it were only for example sake, to be punished with death:—To this plausible conclusion, the justice of which however cannot be maintained either in law or equity, I would respectfully submit the fact, that a great proportion of those who are guilty of infanticide, either attempt to destroy themselves immediately, or look forward to dying by the hands of justice. Thus their own death almost invariably forms part and parcel of the delusion under which they act; and by their execution, you would, generally speaking, only accede to an ardent desire, felt by them at the moment of the commission of their crime. On the other hand, as monomaniacs possess the power of reasoning more or less soundly, on all subjects, save that on which they are insane, and even on that point they can sometimes reason plausibly to a certain extent, their condemnation to seclusion, by thwarting a principal part of their delusion, namely, the desire they may feel to be executed, must be much more likely to deter others from committing such crime, than the prospect of death, the infliction of which, as I have already observed, is only the consummation of, perhaps, the main object of their delusion."

We have great pleasure in laying before our readers the foregoing clear and just remarks on a form of insanity, which, interesting in itself, is peculiarly so when it comes to bear on the question of moral responsibility. It is often the duty of the members of our profession, aided by the light of science, to pursue wickedness through the mazy labyrinth which her cunning had devised—to trace out, as it were with senses denied to other men, the most secret crimes, and by bringing them home to the astonished perpetrators, convince them, that since solitude and darkness cannot screen them from human detection, they are but a poor defence against the eye of an all-seeing God. But Justice, armed with the her sword, is only half armed—her protecting shield is an equally important part of her equipment. Hence, while it is often the peculiar duty of the medical practitioner to bring the criminal to punishment, it is also his high privilege (and he ought ever to regard it as such, and study to be as deserving of it as possible,) to ward off wrong from innocence—to prevent the civil magistrate from ignorantly presuming to augment the infliction of Heaven, by adding bodily suffering and ignominy to bereavement of reason

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AN EXPOSITION OF THE SIGNS AND SYMPTOMS OF PREGNANCY, THE PERIOD OF HUMAN GESTATION, AND THE SIGNS OF DELIVERY. By *W. F. Montgomery*, A. M., M.D., M.R. I. A., Vice-President and Professor of Midwifery in the King and Queen's College of Physicians in Ireland. London, 1837. pp. 344.

THE subject matter of the present volume forms the substance of a very elaborate article in the Cyclopædia of Practical Medicine. That article has been amplified by its author, into the form under which it makes a second appearance in public—so that, in fact—as much of this volume as relates to "the signs and symptoms of pregnancy," is a second and improved edition of the former.

The introductory chapter is an addition to that article, and contains much useful, although but little original matter.

We shall analyze its contents specially, and condense the information scattered through the remaining chapters, so as to give our readers a succinct account of a matter, which has been little understood—and has led to much disgraceful and humiliating contradiction in medical witnesses. We hope in this way to prepare our readers for the study of Dr. Montgomery's work itself, which will be the study of the subject at large.

Until of late years medical jurisprudence formed no integral part of the study of medicine. Individual facts were stated, individual conjectures hazarded, men were hanged and women tortured, according to the ignorance of professional witnesses, and the judgment of an unprofessional jury.

Beck in America, and Smith in England, have the merit of having led to the present improved course of instruction, which renders the study of forensic medicine an essential preliminary to a diploma, or a degree.

We have ourselves assisted in the progress of this improvement—and desire now to make the requirements of our Halls and Colleges somewhat more than a dead letter, by taking up the subject deliberately; proposing to review, from time to time, some of the topics of more pressing necessity, involved in it.

The first in natural order is that which refers to the commencement of a man's personal existence—with all the questions arising therefrom, and we esteem it a very opportune circumstance that Dr. Montgomery's work on the Signs and Symptoms of Pregnancy, is the first to come under our notice.

In doing so we shall follow the Doctor as closely as possible, and notice, 1st, the effects of pregnancy—2ndly, the practical considerations connected therewith, and 3rdly, the precautionary measures required to protect the pregnant female from any injury likely to accrue to her therefrom:—And afterwards take up the consideration of its signs and symptoms.

1. *Effect of pregnancy.*—Immediately on conception, the uterine system takes on a new action, characterized by vigorous efforts in every part to provide for the wonderful process of gestation in all its stages. *The supply of blood to the uterus becomes increasingly greater*—an infiltration of serum takes place in its tissue, increasing the bulk of the organ—softening its texture—and separating its fibres. Lymph is effused over its internal surface, lining its cavity with the decidua, between which and the false membranes elsewhere resulting from inflammatory action, there is a close analogy. The secretion of serum goes on rapidly to form the liquor amnii.

There is a proportionate increase of nervous energy, owing to the increasing size of the nerves of the uterus—involving all the organs of the body in one common sympathy with its increasing sensibility and consequent irritability, through the medium of the great sympathetic nerve which supplies the interior of the uterus, and connects that organ with the kidneys, stomach, breasts and head, so giving rise to a fretful and feverish uneasiness, alternate heat and chilliness, sick stomach, broken slumbers, languor, lassitude, and drowsiness.

Menstruation is suspended. The breasts become swollen and sensitive, there is acceleration of pulse, and blood drawn during the early months of pregnancy exhibits the buffed coat of inflammation.

But one of the most striking phenomena is *the acquisition by the uterus of a principle of growth,* which enables it to accommodate itself to the growth of its inmate, to "grow with its growth, and with its strength increase," until, in the words of our author:—

"It attains to dimensions of such magnitude, and undergoes changes in its component structures so remarkable, that, whether considered absolutely or relatively, they present to our observation a series of phenomena at once the most extraordinary and beautiful of any that claim our admiration in the arrangement of the animal economy." p. 3.

The dimensions of the uterus in its virgin state, and at the close of gestation stand in remarkable contrast, and this it was which appears to have forced from the enthusiasm of Swammerdam, the epithet maraculum naturæ, applied by him to the astonishing growth of this organ.

	In the Virgin Uterus	At the end of the ninth month of pregnancy.
The length is	2 1-2 inches.	from 12 to 14 inches.
The breadth	1 3-4 ,,	from 9 to 10 ,,
From back to front	1 ,,	from 8 to 9 ,,
Cavity	11-14 or 3-4 of an inch.	408 ,,
Superficies	16 inches.	339 ,,

Shewing upwards of 500 per cent. increase of capacity. and a solid increase of substance of from 4 1-3 to 51 cubic inches, or in the ratio almost of 12 to 1.

Situated as the uterus is, it follows of course, that the so wide expansion of that organ, lifting it out of the pelvis, and raising it into the cavity of the abdomen, must disturb its relations with the other viscera, and their's with each other.

The bladder is thereby *affected*, and frequent micturition is often a consequence; sometimes, retention of urine; the former from the cause already mentioned—a common source of nervous sensibility; the latter, from mechanical pressure. Incontinence of urine is another consequence occasioned by the weight of the uterus resting upon the fundus of the bladder and projecting it over the pubis.

The circulation is interfered with by the pressure of the uterus upon the trunks of the veins which return the blood from the lower extremities and parts within the pelvis. giving rise to anasarcous swellings of the feet and legs, and effusions within the cavity of the peritoneum only in part, however, from the mechanical pressure, the greater activity of the exhalants, accounting, in part, also, for such swellings and effusions.

At a late period of gestation, the full-grown viscus presses the liver and stomach upwards, and carrying the diaphragm before them, diminishes the capacity of the chest, impedes respiration, and induces dyspnœa—at the same time rendering digestion imperfect, and occasioning slight icterus by arresting the flow of bile into the duodenum.

The ascent of the uterus out of the pelvis, is necessarily in an oblique direction forwards—whence if inconveniences arise to the female, important advantages likewise arise--for, during the period of gestation, the uterus with its contents is kept from gravitating to the bottom of the pelvis, and so prolapsing through the soft floor of that cavity. The total interruption of the functions of the bladder and rectum is also prevented; and, in the words of Dr. Montgomery, "by this position of the uterus, its longer axis, or the line in which its expulsive effort is directed when in action, is brought into coincidence with the axis of the abdominal aperture of the pelvis; so, that, when labour commences, the child is presented for entrance into that cavity in the direction the best possible to facilitate its transmission." 9.

2. *Practical Considerations; and* 3, *Precautionary Measures connected*

with Pregnancy.—The disposition to plethora prevailing throughout the general system during gestation, leads to affections which call for an antiphlogistic treatment. This tendency to redundance is increased instead of diminished in the greater number of pregnant women by the prejudice which prevails respecting the need of such for a double portion of food.

This error of judgment in the article of diet, leads inevitably to an injurious effect upon the alimentary canal, itself almost always impaired in activity during gestation. And neglect of the bowels, in addition to the increased activity of the vascular system, which is natural and necessary, and, the injurious practice of over-feeding, which is unnatural and uncalled for, combines to produce inordinate secretion of the liquor amnii, with its frequent consequence, relaxation of the uterus after delivery—hemorrhage—convulsions—inflammation—and mania. Food, plain and nutritious in quality—moderate in quantity and capable of ready assimilation; the daily relaxation of the intestines, by mild aperients if necessary, to overcome the torpor induced at this time; and the enforcement of constant and regular exercise, are the best prophylactics against such evils. The advantages of exercise, and habits of activity, are finely illustrated in the ruddy health and easy labours of the peasant's wife, affording a comparison with the case of the woman of fashion, by no means more favorable to the wit and wisdom of the latter than to her health and happiness.

The augmented sensibility, as well as increased vascularity of the pregnant female, heightens her excitability, and renders her more easily affected by external impressions. The imagination and the passions, always readily excited in woman, become morbidly alive to excitement of every kind when she becomes pregnant, and therefore render it unsafe to expose her to the sight or hearing of aught whereby they may be lightly wrought upon. Morgagni mentions a case where grief and fear, on account of her husband's sudden death, so affected his wife then with child, that the motion of the fœtus instantly became languid, after that ceased—and in eight days after it ceased to be felt, the widow miscarried. The melancholy history of the house of Eli, recorded by Samuel, terminates with an instance where horror slew the mother while it spared the child. And Dr. Montgomery adds to cases from his own experience illustrative of the injurious effects of theatrical exhibitions—and of that intellectual curry of the West—novel reading; in the former instance causing fright, profuse flooding, alarming exhaustion, and abortion; in the latter, producing insanity by presenting to the imagination a picture of the insane, in a book containing a description of one of the Maisons de Santé in France.

The nervous system being also extremely impressible in pregnant women, teaches the necessity of withdrawing them from scenes of suffering or distress, from cases of infectious disease, and from the sight of disgusting objects.

The doctrine of effects produced upon the child by the imagination of the mother, fell into disrepute from the "lying wonders" by which it was attempted to be maintained. The doctrine is nevertheless true, and may be reasoned away by the logician, or laughed out of date by those who affected to reject whatever is inexplicable, but is more or less received by every practitioner whose experience in midwifery has been at all enlarged. Dr. Montgomery argues that if a mental impression upon the mother can destroy the life, it may reasonably be deemed capable of modifying the organization of the fœtus. There is a fallacy in this argument, however, which hardly needs to be pointed out—it is one thing to arrest development and destroy life—it is a widely different thing to give the very form and pressure of an external impression to the living moving creature after development and during growth. Dr. M. adduces one remarkable case from his own experience, and one well-authenticated case like his is enough to establish the fact, that, through the impressibility of the mother, wrought upon by the revolting spectacle of another's deformity, the deformity of that other may be communicated to the babe in her womb.

But not physically only, does this extreme nervousness affect the pregnant woman; nor only metaphysically, but likewise morally, turning, in very truth, sweet to bitter and bitter to sweet; changing the amiable to morose, and converting those of cross and crabbed temper to another and more loveable state of mind. This nervous irritability in some cases deprives the sufferer of sleep and rest, though not in reality of the refreshment which flows therefrom; broken slumbers during pregnancy sufficing to recruit the woman's strength and spirits, as fully as unbroken repose at other times.

The mental depression of the pregnant female occasionally assumes a more serious character, partaking of the symptoms of melancholia while gestation lasts, and terminating after delivery in protracted and even confirmed madness. According to Esquirol, strong congenital predisposition to madness may arise from a fright sustained by the mother during pregnancy. The revolution in France was prolific of many such cases. Dr. Burrows considered those "phantasies, called longings," to be "decided perversions or aberrations of the judgment, though perhaps the simplest modifications of intellectual derangement." Some women are, by the same author, affirmed to be insane on every pregnancy or lying-in—and Dr. Montgomery gives a case of mania occurring in eight successive pregnancies. On the other hand, we have cases recorded, where the spirit of a sound mind appeared to have returned with the return, and disappeared at the close of every pregnancy.

The tendency to mental derangement is much increased in cases where moral evil is superadded to physical predisposition.

> "In the opinion of Esquirol, the moral causes affecting pregnant woman, are in relation to the physical as 4 to 1, and of 92 cases of puerperal mania reported by him, 20 (!) were in unmarried women. How deplorable then must be the condition of the mind in a woman who, led astray by the profligate from Virtue's paths of pleasantness and peace, and then abandoned, is compelled to consider her pregnancy as a curse instead of a blessing, and has, in addition to the ordinary troubles of that state, to bear up against the agony of disappointed hopes, of affections misplaced and cruelly abused, to endure the present scorn of society and the anticipation of a still increasing shame, for which she is to find no 'sweet oblivious antidote' of power to 'pluck from the memory a rooted sorrow,' or 'raze out of the written troubles of the brain.' How often has such a state of mind been followed by convulsions, or, ending in insanity, has armed with the weapon of suicide the once gentle hand of her, who, to use the words of W. Hunter, 'might have been an affectionate and faithful wife, a virtuous and honoured mother, through a long and happy life; and probably that very reflection raised the last pang of despair which hurried her into eternity.' I have

myself seen instances of such miserable results, and one of them very lately."—*Montgomery*, p. 22.

We have quoted the above eloquent and feeling passage at length for the benefit of our younger readers, in the hope of giving them as great an abhorrence of seduction as we ourselves cherish for the undoer of female chastity.

Puerperal mania may be apprehended, when the aggravated form of hysteria has prevailed during pregnancy.

But many of the remarkable phenomena noticed above are not the usual concomitants of gestation, most of them are rare occurrences; some, remarkably so; and all, exceptions to the general rule, and therefore calling for marked attention, as probable indications of a morbid state of the system about to be manifested, or actually existing, and otherwise obscure; requiring us, moreover, to be on the watch to counteract the influence of the predisposition in pregnant women to be injuriously affected even by ordinary causes, and much more so by those of an impressive kind.

Pregnancy, indeed, cannot be considered as a state of disease, but as a condition in strict consistency with sound health; for, if with a few it has deserved the name of a nine-months' malady, the many have passed through it without any or with but little inconvenience; while mothers are observed to enjoy better health than unmarried or barren women. And, in numerous instances, it has warded off disease from the parties, as in epidemics—while in others, it has stayed the ravages of diseases actually present, as in phthisis.

Dr. Montgomery adverts to the interesting fact, which very early attracted our own notice, that—

> "When a pregnant woman labours under a malady which is to end fatally, before the completion of her gestation, it almost invariably happens that a short time, generally a day or two, before her death, the uterine action is established, and the child born." 26.

An occurrence so frequently observed by our author, that he regards it, and we agree with him, "as a pre-ordained arrangement to prevent the unborn child from participating in the decease of the mother."

The occasional "simulation of disease" accompanying pregnancy is another curious and interesting fact, upon which, however, we have not room to enter

The legal enactments for the protection and comfort of pregnant women have not improved, either in justice or humanity, with the advance of the world's age, and the boasted advance of civilization. No wonder! The Malthusian doctrines having reduced the value of human life below par, and degraded the condition of pregnancy to the very borders of criminality. Our silly forefathers, and those most egregious fools the ancient Greeks and Romans, committed a woful mistake, from the terrible effects of which political economy is only now delivering the world. *They* thought, with an old-fashioned author of former times, one of another people, that "children and the fruit of the womb" are "like arrows in the hand of a giant," and "and happy he that hath his quiver full of them." *We* are instructed, by sager heads and lips more eloquent, to look upon population as a curse, and—facilis descensus averni!—upon pregnancy as a crime. Why should we extend protection to the unborn babe, who had better never be born. Our fathers did so, but they did it in their ignorance!

Sed seria a jocis. Dr. Montgomery ends his chapter upon pregnancy with the expression of a *fear* somewhat tantamount to our already recorded statement of *a fact.*

"In conclusion," "he says, (p. 27.) "I *fear* that, if we take a review of former times, a conviction will be forced upon us not very flattering to our fancied superiority above our ancestors in our watchful care of our women when pregnant, or in the legal provisions enacted for their protection and comfort, in both of which respects the laws and customs of the earliest periods *seem* to have greatly excelled, both in justice and humanity, those which even at this day prevail amongst us." Why? will the worthy Doctor allow us to inquire; why does he only fear, and not boldly affirm on such a point as this? A mind of such a stamp as his should be above fear, and ought not to feign it when the cause of truth and humanity is at stake. Indignant rebuke of the miserable legislation of our day in such and similar cases, affecting the life of born and unborn alike, would better become his eloquent and masterly pen than the maudlin affectation of an unreal apprehension.

II. SIGNS AND SYMPTOMS OF PREGNANCY.

A more important, a more delicate, or a more difficult duty devolves not upon the medical practitioner than that of deciding upon cases of doubtful or of suspected pregnancy, where the parties may be suspected of either feigning or concealing its existence, according to their presumed motives for practising concealment or imposition.

The *difficulty* of attaining to a right judgment in such cases is both physical and moral; the inadequacy of the several physical signs taken singly to determine the question putting the examiner's skill and intelligence to the test—and the conflict of a mind tossed between the sense of guilt and the dread of exposure in cases of concealment, and absorbed in the all-engrossing passions of avarice, or of self-preservation in cases of feigning, putting the credibility of the principal witness herself beyond all powers of belief.

The *delicacy* by which such a subject is itself invested, is greatly heightened by the concomitant circumstances of an investigation involving, as the case may happen, the rights of persons or the rights of property, and with the one hand exposing the innocent to unjust imputation, while with the other the shame of public infamy may be undeservedly kept from visiting the truly guilty.

The *importance* of a duty which affects alike the fortunes, lives, and characters of individuals, is sufficiently obvious. But neither should the difficulties of the inquiry deter us from entering upon it, nor the delicacy of the investigation impede us in progressing with it to a certain and final termination, nor the importance of its results affect with professional cowardice when called upon by proper authority, to pronounce the judgment to which we have attained. Yet do they render it imperative upon the inquirer to make the necessary examination with all practicable, with all possible care

The signs of pregnancy are collegible from a variety of sources. Of the presence or absence of some of those signs, report is the only evidence; but report is too frequently here, as elsewhere, a common liar, never to be relied on without a corroborative testimony; and such testimony is only to be found in existing changes of which the senses can take cognizance.

Dr. Montgomery groups these signs into PRESUMPTIVE, PROBABLE, and UNEQUIVOCAL. The *Presumptive* comprehends(A)the constitutional affection resulting from the new actions taken on by the uterus, and (B) the whole train of sympathetic changes and deviations in other organs excited by the uterine irritation. A bare enumeration of these will at once shew their fallacy as tests of pregnancy—every one of them being separately, and many conjointly, present in diseased conditions of the great organ of gestation. They are:—A. Suppressed menstruation; increased vascular action; increased and increasing nervous irritability; alterations in the countenance. B. The greater size of the breasts, tingling pains therein, the formation of areolæ, and the secretion of milk; irritability of stomach, followed by vomiting; and a variable and capricious appetite. The *Probable*, embracing the altered condition of the uterus, affecting as it does correspondent alterations in the os and cervix uterus, enlargement and prominence of the abdomen, and a change in the umbilicus. The *Unequivocal*, including the contents of the uterus so enlarged, whether a fœtus, where pregnancy is concealed, or organized substances, not the product of conception, where it is suspected or simulated.

Let us examine these in detail, under their respective groups.

I. PRESUMPTIVE SIGNS OF PREGNANCY.

Suppression of the Menses.—Conception, in healthy women, whose menstrual discharges have been regular, is followed by a suppression of the menses at the next returning period. This is the rule—but a rule, like every other, liable to exceptions. Conception may take place before menstruation has been established at all. Morgagni, Frank, Capuron, Low, Foderé, and Sir E. Home have placed on record examples of this. The returns of the menstrual periods are sometimes very irregular and protracted. Cases also occur in which conception has followed the suppression of the menses. And this suppression may arise from other causes than conception, such as disease, cold, privations, and strong mental emotions. In some rare instances, conception takes place after long suppression of the menses from disease. Dr. Montgomery mentions a case where there had been no menstrual discharge for two years previous to conception. A woman may conceive while nursing without any previous return of the catamenia, and we have at present a case of a woman who has had several children, and is again pregnant—who has been always pregnant or a nurse since her marriage, and has never experienced a return of the catamenia.

From what has now been said, it is plain that the *absence* of the catamenia is no sign of pregnancy upon which dependence can be placed. Dr Montgomery enquires whether their *presence* is any evidence that the woman is not pregnant? and in opposition to the authority of Denman, Hamilton, and Schmitt, decides in the negative, and decides, we think, erro neously—affirming at the same time that he has himself met with several instances of menstruation occurring *once* after conception, and citing in confirmation of his view—the authorities of Johnson, Desormeaux, Puzos, Stein, Gardien, Dewees and Gooch. The objection that the discharges in such cases are not the menstrual fluid he dismisses very summarily, with the assertion that " the discussion of that question does not concern us here."—But where then does it concern us? All parties admit that in certain instances, discharges similar in colour, quantity, and period, proceed from the vagina after conception—and the only question is—are those discharges true menstrual fluid? We answer, no!—the source of menstruation is no longer open—those discharges proceed from another source—they differ in *quality* from the menses. Indeed, he afterwards very nearly admits as much when he confesses to agreeing:

> "———with Dr. Hamilton in believing, that *many reputed cases of this kind have obtained credence for want of a sufficient careful examination*, by which it would have been discovered that there were such marked differences between the discharges taking place during pregnancy, and those to which the woman was naturally subject, in the intervals of their returns, in their duration, and in their quality, as would of themselves suggest the probable existence of some altered state of the system."—p. 48.

Suppression of the menses, without injury to the general health, taking place in a healthy woman whose catamenia were previously regular, may be admitted as presumptive proof of the existence of pregnancy, and vice versa. *Nausea and Vomiting.* The stomach frequently becomes irritable upon conception—and this irritability is, doubtless, a salutary attendant upon pregnancy. It may occur, however, from many other causes than pregnancy—and may arise from disease—although a very little care will generally enable the inquirer to distinguish the two kinds. Dr. Montgomery omits mention of that remarkable characteristic of the vomiting in pregnancy, its commencement and greatest violence in the mornings, and gradual subsidence and total cessation towards the evening.

Salivation. The sympathetic irritation which affects the stomach, sometimes extends to the salivary glands—and salivation is the consequence—but as this is the exception to the rule, its presence or absence, scarcely affirms anything relative to pregnancy. We have a case at present, where the mother of five children hesitates to believe herself pregnant because she does not salivate, having done so in all former times of child-bearing.

Swelling of the Breasts. Every one is acquainted with that beautiful provision in nature for the supply of food suited to the wants and weakness of the new-born babe, in the swelling breasts of the mother teeming with milk for her young. But, like all the other presumptive signs, the swelling of the breast is only presumptive proof at best of pregnancy—the unaltered state of the same organs no positive proof of the absence of that condition. Suppression of the menses, or their retention by an imperforate hymen will cause the former—weakly and delicate conditions may induce the latter. The natural fulness of the breast can hardly be mistaken.

The Areola. The altered condition of the areola is a sign upon which Dr. Montgomery lays considerable stress, and with good reason—"as being one of the most certain external indications of pregnancy, arising from the operation of sympathy." Rœderer's description of this change is very accurate, and by our author considered the most so of any he has met with:—"menstruorum suppressionem, mammarum tumor insequitur; quocirca mammæ crescunt, replentur, dolent interdum, indurescunt: venæ earum cœruleo colore conspicuæ, redduntur, *crassescit papilla, inflata videtur, color ejusdem fit obscurior, simili colore distinguitur* discus ambiens qui in latitudinem majorem expanditur, parvisque eminentiis, quasi totidem papillulis, tegitur." To these several circumstances may be added another, viz: a soft, moist state of the integument, which seems to be raised and turgescent; a state caused by infiltration of serum into the subjacent cellular tissue.

The earliest period at which this change is observable is not perhaps very distinctly ascertained, but Dr. M. has recognized it fully at the end of the second month, "at which time the alteration in colour is by no means the circumstance most observable, but the puffy turgescence (though as yet slight) not alone of the nipple, but of the whole of the surrounding disc, and the developement of the little glandular follicles are the objects to which we should principally direct our attention." p. 60.

During the course of the two following months, a circle of varying intensity in individuals of different complexions surrounds the nipple; differing in diameter from an inch to an inch and a half. In Negro women it becomes jet black with a purple shade—and in monkeys acquires turgescence and a bright vermillion colour. The surface of the areola immediately around the base of the nipple, is studded over with small glandular follicles, numbering from 12 to 20, and projecting from the 1-16th to the 1-8th of an inch. The integuments covering the part are turgescent, softer, and moister than the surrounding portion, and on both may be seen, especially in dark-eyed, and dark-haired women, "numerous round spots or small mottled patches of a whitish colour scattered over the outer part of the areola, and for about an inch or more all round, presenting an appearance as if the colour had been discharged by a shower of drops falling on the part."—p. 62. This appearance is visible in the fifth month. About the sixth month and afterwards, the breasts appear cracked with whitish, silvery lines, which, once formed, continue permanent—and, however diagnostic in first, will not avail to discover subsequent pregnancies.

Circumstances occur, however, to modify the certainty of any conclusions we may come to from this sign. Pregnancy may exist, and the areola be deficient in one of its distinctive marks—the colour. In cases of abortion, the areola tubercles shrink, and lose their sero-lactescent moisture. On the other hand, women, after recent miscarriage, may retain the true characters of this change—as is the case also with nurses. In some young females the areola assumes the same shade of colour so frequently observed round the eyes of women. Smellie, William Hunter, Gooch, Campbell and Blundell attached the utmost importance to this test, some of them placing reliance on the colour, others on the turgescence of the integument. Dr. Hamilton of Edinburgh considering it "the principle distinctive mark between the part during pregnancy, and at other times in women who have had a family, and in whom the areolar disc retains its dark colour."

Milk in the Breasts. The secretion of milk in the male breast, under the stimulus of a child's mouth, attested by the Bishop of Cork, Baron Humboldt, and, more recently, by Captain Franklin, sufficiently exposes the fallacy of this as a distinguishing sign of pregnancy. Milk has also been secreted, owing to morbid extensions in the uterus exciting the mammary sympathy. Sexual excitement has also induced this secretion. Nor is it a sign which, if not otherwise fallacious, would avail us much as a guide, seeing that milk is generally secreted after delivery—and if before, only then when less uncertain signs are present. Nevertheless, taken in connexion with other proofs, it is valuable, and confirmatory of the existence of pregnancy, especially in those cases, where there has been no previous conception.

II. PROBABLE SIGNS OF PREGNANCY.

Enlargement of the Abdomen. This is a necessary consequence of the growth of the uterus during gestation; but one which is not obvious for the first two months, during which the abdomen, where there is no inflation, becomes flattened—the enlargement which is frequently visible at that early period, arising from inflation of the bowels, and requiring to be carefully distinguished from the result of pregnancy. In the third month, however, the increasing size is perceptible and proceeds steadily in proportion to the enlargement of the uterus. Where there is not much fat, the outline of the gravid uterus may be felt and traced, rising in the abdomen with the advance of pregnancy—and when, from fat, or any other cause, it may be impracticable to feel the uterine tumor and define its circumference, the cause of the enlargement may be ascertained to be something which renders the abdomen more solid to the touch than natural—while there is no indication of disease.

The abdomen is sometimes distended by accumulations of fat in the omentum or integuments. It is also enlarged in cases of dropsy. On the other hand the increased size may be concealed by dress, and an appearance of increased size may be occasioned by the protuberance forward of the sacro-vertebral curve. "It is, perhaps, still more important to recollect, that although pregnancy should exist, if the child die, the development of the uterus will be arrested, and the enlargement of the abdomen will not continue to increase, but, on the contrary, will sometimes diminish, the dead fœtus being retained in utero for several months, and the patient, although really many months pregnant, may not exhibit any increase of size beyond what is natural to her; or being near the end of her nine months, may not be larger than she was at four or five."—p. 96.

Nor should we be unmindful of the occurrence of cases, where the flow of the menses being prevented by structural impediments, or the imperforate state of some of the parts, as the hymen, the fluid is deposited in the uterus, distending it and the vagina, enlarging the abdomen, and raising the uterus as high as the umbilicus. The existence of such cases calls for the utmost caution and care in making the examination before announcing the diagnosis.

State of the Umbilicus. The umbilicus is, as if drawn inwards and downwards during the two first months of pregnancy, in consequence of the descent of the uterus, but with its ascent, there is a corresponding rise of the umbilicus;—in the third month it is natural;—in the fourth not so hollow as before conception;—in the fifth and sixth almost level with the surface around; and in the sixth or seventh altogether so;—while towards the close of the process it projects considerably.

This is a very important sign, upon which some authors have placed great reliance—how far any solid tumor enlarging the abdomen may be productive of the same effect, is yet doubtful. Dr. Montgomery states, from experience, "that a morbid tumour in the abdomen, of a size and elevation as great as those of the uterus in the seventh month, may co-exist with a perfectly depressed umbilicus."—p. 98.

Changes in the Uterus. In the unimpregnated state of this viscus, the os uteri projects from a quarter to half an inch into the vagina: the projecting part feels firm; is of a conical form; with a transverse opening at its termination. When conception has taken place, it becomes altered in texture, and increasing in size and weight. It is fuller, rounder, and softer to the touch—and the orifice feels as if it was circular.

The irritation of the uterus which precedes menstruation effects, however, a similar change in its form and texture, to the above—so also, only in a more marked degree, polypus, hydatids, an accumulation of fluid within its cavity; while, in women of relaxed habit, or who have borne children, the lips of the os uterus are always soft and tumid, and so far separated as to admit the point of the finger readily. But although such changes are no criterion of pregnancy—their absence is clearly indicative of the absence of that state.

The change in the cervix uteri is less equivocal—that part becoming more and more abbreviated every month after the fourth.

The size, situation, and consistence of the impregnated uterus, cannot be distinguished for the first three months from the same circumstances in the unimpregnated organ—and after that, the proof of pregnancy accumulate from every direction. Indeed, the main difficulty consists in detecting pregnancy during the four first months—after that, the business is sufficiently simple.

Among the probable signs, also, we should perhaps include, *the blueness of the vagina*, considered by Dr. Kluge of Berlin, and M. Jacquemin of Paris, as a sure test of pregnancy. But Dr. Montgomery observes that, while in some of the cases examined by him, its existence was very obvious, in others it was so slight as to be scarcely if at all preceptible. According to Dr. K. the discoloration commences in the fourth week of pregnancy, goes on increasing till delivery, and ceases with lochia. M. Jacquemin found it in those prostitutes who were pregnant, when he conducted the examination of the genitals in prostitutes according to the Paris Police Regulations. M. Duchatelet was present on the occasion, and 4500 prostitutes were examined. The fallacy of this test may be inferred from the source of it; viz. vascular congestion or determination of blood to the parts. In a vigina examined by Dr. M. during menstruation, the purple hue of the mucous membrane was distinctly perceptible. And the practice of examining the orifice and internal surface of the vagina to ascertain the fitness of some of the lower animals to receive the male, has led to the same discovery of determination of blood to those parts, discolouring them, or rather heightening the colour to a dark purple. In Mr. Cruickshank's "Experiments to discover the Ova of Rabbits," &c. is the following passage to that effect:—"May 30, 1778. I took a female rabbit, hot (as the feeders term it) that is, ready to be impregnated, and disposed to receive the male. This they find out not by exposing her to the male, but by turning up the tail and inverting part of the vagina: *its orifice and internal surface are then as black as ink, from the great derivation of blood to these parts.*" We conclude our notice of this sign with the remarks of Dr. Montgomery.—"Should subsequent observations prove that healthy pregnancy is invariably accompanied by such an appearance, becoming visible within the first or second month, the fact would certainly be one of the most important additions ever made to our means of making a correct diagnosis in cases of early pregnancy, and *the more especially as it would be* applicable to a period, at which we have no other satisfactory means of discovering the existence of that condition; and might, occasionally, under peculiar circumstances, be resorted to with propriety and advantage."—p. 128.

III. UNEQUIVOCAL SIGNS OF PREGNANCY.

These are, the presence and motions of a fœtus in utero;—the expulsion of an embryo from the uterus;—and the state of the uterus after death.

The Presence and Motions of the Fœtus in Utero. These may be felt upon external examination, when the mother has no consciousness of any thing of the kind. It has happened to Dr. Montgomery, and it has happened to others, in numerous instances, and both before and after "quickening," or that "first sensation experienced by the mother of the life of the child within her womb." But not only may a mother be unconscious of the growing treasure which she carries about with her, she may, more unhappily be betrayed into the mistake of imagining that she is with child when she is only big with gas, or serum, or coagula. The case of Queen Mary is one of painful yet laughable interest: in the words of the historian—"The Queen's extreme desire of having issue had made her fondly give credit to any appearance of pregnancy; and when the Legate was introduced to her, she fancied that she felt the embryo stir in her womb. Her flatterers compared this motion of the infant to that of John the Baptist who leaped in the mother's belly at the salutation of the Virgin. Despatches were immediately sent to inform foreign courts of this event; orders were issued to give public thanks; great rejoicings were made; the family of the young prince was already settled; for the Catholics held themselves assured that the child was to be a male; and Bonner, Bishop of London, made public prayers be said, that Heaven would please to render him beautiful, vigorous, and witty. But the nation still remained somewhat incredulous; and men were persuaded that the Queen laboured under infirmities which rendered her incapable of having children. Her infant proved only the commencement of a dropsy; which disappointment, conjoined with other annoyances of a domestic nature, so irritated the Queen that she totally lost her temper, and was guilty of some disgraceful acts of unjustifiable severity."—***Hume's History of England***, *Chap.* xxxvi.

But however "*unequivocal*" such a symptom may in reality be, when really existing, the semblance of it may be so like the reality as to deceive even experienced practitioners, some of whom have supposed they felt the motions of the fœtus where there was no pregnancy. Accumulated menstrual fluid in the uterus caused Dr. Dewees to err thus, and Dr. Ingleby was similarly misled in a case of abdominal tumor by "a distinct crawling movement perceptible within it." A deceptious skill on the part of the woman simulating the motions of the child, may also prove a source of error to the medical inquirer. Joanna Southcott appears to have possessed this power, and by means of it to have kept up the delusion which she practised until the cheat could no longer be matter of doubt. Dr. Blundell mentions another case of the kind.

The time at which this motion may be felt has been variously estimated. Dr. Hamilton says, "four calender months after conception;" Rœderer, that 80 out of 100 women quickened at the fourth month, while, of the remainder, some did so a month earlier; some, a month later. Dr. Montgomery's experience is that the greatest number of instances occur between the twelfth and sixteenth week after conception, or, "adopting another mode of calculation, between the fourteenth and eighteenth week after the last menstruation." The earliest interval known by Dr. M. was eleven weeks and two days; by Dr. Hamilton, eleven weeks. Some women do not quicken until a later period. Such were those mentioned by Baudelocque, who passed the sixth and even seventh month. According to Johnson, there are cases where the end of reckoning is near before the motions are felt. But a still more remarkable fact is, the total absence of any thing like this sensible motion during the whole of gestation. Dr. Campbell of Edinburgh, Leveat, Baudelocque, Gardien, Gooch, and Dr. Montgomery, state cases of the kind.

Substances expelled from the Uterus.—These may be an ovum, a mole, hydatids, the membrane produced in dysmenorrhœa.

Ova.—The utmost care and skill may fail to detect the true character of the ovum which is expelled within the first month. Afterwards it becomes distinct enough to be recognized by almost any one "who will take sufficient time to examine" it.

When expelled whole, the uterine decidua covers it, and may be known by the external surface thereof being rough, and penetrated with numerous foramina for the passage of the blood; while the internal is smooth, slightly corrugated, and shews only few foramina, and those extremely minute. Dr. Montgomery notices, as he supposes for the first time, another remarkable feature of this product, and as there is a claim to originality thus set up, we deem it only due to the author to give publicity to the discovery in his own words:—

"Repeated examinations have shewn me that there are, on the external surface of the decidua vera, a great number of small cup-like elevations, having the appearance of little bags, the bottoms of which are attached to or embedded in its substance; they then expand or belly-out a little, and again grow smaller towards their outer or uterine end, which, in by far the greater number of them, is an open mouth when separated from the uterus; how it may be while they are adherent, I cannot at present say. Some of them which I have found more deeply imbedded in the decidua were completely closed sacs. Their form is circular, or very nearly so; they vary in diameter from 1-12th to 1-6th of an inch, and project above the 12th of an inch from the surface of the decidua. Altogether they give one the idea of miniature representations of the sucker of the cuttle-fish. They are not confined to any one part of the surface of the decidua; but I think I have generally found them most numerous and distinct on those parts of it which were not connected with the capillary rudiments of the placenta, and at the period of gestation which precedes the formation of the latter as a distinct organ. *They are best seen about the second or third month, and are not to be found at the advanced periods of gestation.* This outer coat may be found only partially adhering to the ovum, or entirely torn away and separated from it during its expulsion; but in either case these characters mark the true uterine decidua, and are not found in the products of disease." 133-4.

"I confess I am not prepared," he adds in a note, "to offer any very decided opinion as to the precise nature or use of these decidual cotyledons (for to that name their form, as well as their situation, appears strictly to entitle them); but from having on more than one occasion observed within their cavity a milky or chylous fluid, I am disposed to consider them reservoirs for nutrient fluids separated from the maternal blood, to be thence absorbed for the support and developmemt of the ovum. This view seems strengthened when we consider that, at the early periods of gestation, the ovum derives all its support by imbibition, through the connexion existing between the decidua and the villous processes covering the outer surface of the chorion." 134.

Internal to the uterine is the reflex decidua, with its smooth outer, and filamentous inner surface, and the arborescent villous bond of union between it and the chorion. These villi are positive proofs of the product being an ovum.

Moles.—The discrepancies of opinion among authors on the nature of these products—some declaring them to be independent of sexual intercourse, others insisting that they never exist except when such intercourse has taken place—involve in very considerable doubt the question of impregnation, when a mole is the substance expelled from the uterus.

Uterine Hydatids, from the contrariety of opinions, subject the medical jurist to similar doubts and difficulties as in the case of moles. Madame Boivin has done much, however, towards a satisfactory settlement of the question whether they depend upon conception; and her researches go to establish the affirmative.

The Membrane of Dysmenorrhœa.—The habitual occurrence of the pains which accompany the discharge of this membrane—the irrespondence of the breasts to the state of pregnancy—and the absence of the usual symptoms of that state, are sufficient to distinguish this membrane from the products of conception. And, if any doubt exist, the substance of the membrane is itself deficient in the character already described of the true decidua.

We have not left ourselves space for an analysis of several chapters in this volume, which, although connected with its professed topic, are unnecessary to its complete discussion, and can only take up what remains of the signs of pregnancy; viz.

State of the Uterus and Uterine Appendages after Death.—When gravid, it must be enlarged; its enlargement should correspond with the period of supposed pregnancy; and there ought to be discovered, distinctly and unequivocally, an ovum, or some of its component structures.

It may, however, be found enlarged and *empty*, with several of the changes accompanying gestation. In such a case attention must be turned elsewhere for proofs.

The presence of a corpus luteum never occurs but as a sequence of impregnation. We state this positively, although in contradiction to many weighty authorities, by whom the converse of the proportion has been maintained. But then it behoves the examiner to know what a corpus luteum is, and what it is not; the fatal mistakes and erroneous opinions upon this subject all arising from ignorance of the true characters of that substance.

On examining the ovaries of a woman recently pregnant, the one whence the germ has escaped differs from its fellow; it is to the eye larger, rounder, more vascular; to the touch, fuller and softer; while the larger size is the result of a projecting tumor swelling out at one part from the natural outline, like the projection of the cornea from the globe of the eye. The increased vascularity is confined chiefly to the limits of this protuberance, the colour of which, unlike the rest of the organ, is "a deep or dull-brownish yellow, seen through a slightly reddish medium." On the surface of the prominent part, a distinct cicatrix, as of a rent imperfectly united, is observable; and round it, to a small extent, the peritoneal coat appears as if abraded or removed by slight ulceration. Here the ovulum will have escaped from the ovary. The form and size of the corpus luteum are generally oval, the longer axis measuring from 4-8ths to 5-8ths of an inch, the shorter from3-8ths to 4-8ths, occupying from a quarter to one half of the whole area of the ovary, according to the period of gestation, the size being in an inverse ratio to the advance of pregnancy. Its structure is glandular and lobulated, with slight convolutions, somewhat resembling a section of the human kidney, or, on a diminished scale, the centrum ovale of the brain. Its name tells us its colour. Within the first four months of pregnancy, its centre exhibits a small cavity in a strong white cyst (the inner coat of the Graafian vesicle). Beyond that period the sides of this cyst close, obliterating the cavity, and leaving in its stead an irregular white line, of a stellated character. This is visible with the last remaining traces of the corpus luteum, and is its most diagnostic character.

When gestation ceases, the corpus luteum disappears; but this disappearance is gradual, yet always within the period required to complete gestation after a subsequent conception.

Having stated what the corpora lutea are, we come to shew what they are not, and this we shall do in the words of Dr. Montgomery. In the virgin corpora lutea, as certain protuberances have been unhappily called,

"1. There is no prominence or enlargemant of the ovary over them.

2. The external cicatrix is almost always wanting.

3. There are often several of them found in both ovaries, especially in subjects who have died of tubercular disease, such as phthisis, in which case they appear to be merely depositions of tubercle, and are frequently without any discoverable connexion with the Graafian vesicles.

4. They present no trace whatever of vessels in their substance, of which they are in fact entirely destitute, and of course cannot be injected.

5. Their texture is sometimes so infirm, that it seems to be merely the remains of a coagulum, and, at others, appears fibro-cellular, like that of the internal structure of the ovary; but never presents the soft, rich, lobulated, and regularly glandular appearance, which Hunter meant to express when he described them as 'tender and friable, like glandular flesh.'

6. In form they are often triangular, or square, or of some figure bounded by straight lines.

7. They never present either the central cavity, or the radiated or stelliform white line, which results from its closure." 245.

With this quotation we conclude by recommending the work before us to the attentive study of our young professional brethren, and to the diligent perusal of all others. It is a valuable collection of important facts, a judicious compendium of the knowledge accumulated by many minds; and will prove a real help to the medical practitioner as well as to the medical witness and jurist.

We have left unnoticed the chapters "On the Period of Human Gestation," "On the Signs of Delivery," and "On the Spontaneous Amputation of the Fœtal Limbs in Utero," with which the volume is enriched. The second only has any thing to do with the subject of the present article, and the first will be taken up hereafter, when an opportunity may offer of discussing the question respecting the duration of human pregnancy.

When a second edition of Dr. Montgomery's work shall be called for, we recommend to him the use of the pruning knife, and a reconsideration of the order in which his chapters and their contents are arranged. All the facts of the book might be compressed into one-third of the space they now occupy, and all the opinions of himself and others which are worth preserving, might be stated in half the words used for that purpose in the present edition.

We throw out this hint from a sincere desire to promote the diffusion of as valuable a mass of professional information as it has fallen to our lot to review, and from a deliberate conviction that the medical press has become so prolific of *books*, that the time is not far distant when those only will be bought which are small. What is wanted in every branch of the profession are books of *facts* (true, not false facts), and of deductions. And we cannot but think he would be doing the study of medicine a great service who would reduce to "Aphorisms" all that is certain, and to "Queries" all that is probable, in all the many branches of that most comprehensive and laborious subject. "Facts" would be a very good title for a summary of every ascertained fact, winnowed, like wheat, from the chaff of crude hypotheses and unripe theories. And, if the unreal things which in times past have originated mistakes, and are perpetuating them to the present hour, were thrown into one lump of learned lumber under the head of "Fictions," the benefaction to medical science and to the medical student would be complete.

ON THE ACTION OF DIURETIC MEDICINES. By *Dr. C. G. Mitcherlich.*

(From the Archiv. Für Anatomie, Physiologie, von Dr. J. Müller, Jahrgang 1837. Heft 3.)

We trust the following copious analysis of an essay coming from so distinguished an authority as Dr. Mitcherlich, on so interesting and important a subject, will not be considered out of place in a journal devoted, as ours ever has been, to the advancement and improvement of PRACTICAL MEDICINE. If there be any one class of therapeutic agents more abused than another, in the hands of the mere routine practitioner, it is the class of diuretics. In treating the disease for which diuretic medicines are principally employed, namely dropsy, it has been and still is too much the practice to prescribe for a mere name, the pathological condition on which dropsy may depend, and the primary disease of which the dropsical effusion is but a symptom, being entirely left out of consideration. Did the physician, when prescribing diuretics, recollect that most of those articles of the materia medica which are specifically and Κατ' ἐξοχην classed under this head, are powerful local stimulants, and that it is by their revellent effects combined with the diuresis which they occasion, that they produce beneficial results, we should not so often see them prescribed in cases wherein the primary affection is seated in the kidneys, this affection being accompanied with inflammation or at least irritation of those organs, and consequent diminution of the urinary secretion; in which from an exclusive attention to the latter circumstance their use appears to the superficial observer to be indicated. In such cases their employment cannot fail to add to the mischief, the best diuretics obviously being the lancet and the antiphlogistic plan of treatment, which, by removing the cause of the diminished secretion, would tend indirectly to establish its perfect restoration. For a knowledge of the fact that dropsical effusion is frequently dependent on disease of the kidneys, and that the mark of this dependance is plainly afforded by the albuminous state of the urine, we are indebted to the pathological researches of Drs. Bright, Christison, Gregory and Osborne. We shall without further preamble present the Essay to our readers. The urinary secretion removes superfluous water and other materials, which are no longer of use in the animal economy, from the mass of blood, and, connexion with those organs destined to similar functions, keeps up the healthy composition of the blood.

Should the urinary secretion be stopped, serious diseases are occasioned. The extirpation of both kidneys, according to the experiments of Prevost and Dumas, produces death before the tenth day, and the blood is then found to be thin, more fluid than natural, abounding in urea; serum also is effused into the cerebral cavities, the mucous membrane of the lungs is covered with mucus, and a quantity of thin fæces with a considerable quantity of bile is found in the intestinal canal, Should the suppression of the urinary secretion not take place suddenly, as in the experiments on animals just mentioned, the disease (ischuria renalis) in such case proceeds as follows: a urinous taste is produced in the mouth, the cutaneous, salivary and intestinal secretions are increased, and emit a urinous smell; violent fever, and dyspnœa ensue, severe head-ache with dizziness, somnolency, delirium, convulsions, and apoplexy or suffocation, terminate life. On instituting a post-mortem examination, there is then found a copious collection of water in the different cavities, and the odour of urine is also distinctly perceived. The non-secretion of the urine from the blood makes this latter fluid thin, produces increased secretion from the other secreting organs, is followed by effusion of serum into the cavities, and gives rise moreover to peculiar symptoms, which in all probability depend on the action of the constituents of the urine. Should the urinary secretion be gradually diminished, without becoming entirely suppressed, the results are of a different kind, and dropsy becomes established; this for instance takes place in degenerescence of the kidneys. Cases are on record in which no discharge of urine took place for months or even for years. Richardson mentions a case in which no urine was ever passed, and that without any inconvenience. Such observations however are to be considered extraordinary phenomena, and stand in need of confirmation.

The urine in a healthy individual has an acid re-action, a specific gravity of 1,005—1,03, at most of 1,025 (Prout), and should contain from 4 to 8 of solid constituents. Great varieties are found here, according as the urine of the morning or the evening be made the subject of examination, according as the condition be after copious drinking, or a long thirst, &c. The quantity of the urine evacuated daily by a healthy man varies considerably, and depends on the quantity of the fluids secreted by the skin, intestinal canal, &c. and on the quantity of the fluid and solid food consumed by the individual.

The ordinary constituents of the urine are: free uric acid, free lactic acid, lactate of ammonia, sulphate of potass and of soda, phosphate of soda, biphosphate of ammonia, chloride of sodium, muriate of ammonia, fluoride of calcium, phosphate of lime and magnesia, silica and urea, as also an indeterminate quantity of animal matter. Besides this, the urine also contains some mucus from the bladder.

These constituents are constantly found in the urine of an individual in the state of health, but not always in the same quantity, nor in the same relative proportions. The urine of children is poorer in urea and uric acid than that of adults. The cutaneous transpiration exercises very considerable influence on the urinary secretion, and the greater the quantity of fluid produced from the body by that means is, the more concentrated is the urine, and in the less quantity is it secreted. Accordingly we find a great difference in warm seasons and in Winter with respect to the secretion of urine, as also in a moist and dry atmosphere. When the intestinal discharges are copious, a smaller quantity of urine is secreted. Nor can we, under such circumstances, raise the urinary secretion by means of medicine, as in the opposite case. Drink exercises still greater influence, as the urine flows so much the more abundantly, and becomes poorer in solid constituents, the more we drink. Water is carried away by the skin, &c. but in considerable quantities also by the kidneys. On this account the urine is more concentrated in the morning than in the evening, because less is drunk at night. Should the drink contain other materials in solution, these also frequently change the composition of the urine, as they are partly excreted through the kidneys, whilst some of them influence the formation of other materials

The food produces an important change in the urine, as many substances which are absorbed after digestion, are not converted into materials of nutrition, and are eliminated with the urine; they may have suffered a change during their circulation or not. Thus after digestion the urine is rich in urea, uric acid and salts.

The urine undergoes very important changes in disease both with respect to its quantity, and also with respect to its composition. These differences we have here noticed but very briefly. The quantity of the urine is very much increased in diabetes, at the same time that a great quantity of water is drunk. The urine diminishes very much and contains much solid constituents, if violent sweating or diarrhœa carry of a considerable quantity of fluids from the body, and if, as in dropsy, a great quantity of fluid be deposited into the cellular tissue or into the cavities of the body. The composition of the urine also varies very considerably in diseases, on which subject however, but few investigations have been made. Thus for instance, in paralysis proceeding from the brain or spinal cord, we frequently find urine with an alkaline reaction; in diabetes mellitus it is found to contain sugar; in dropsy it often contains albumen; in gout and rheumatism uric acid and urate of ammonia in great quantity.

Most articles of the materia medica also changes the urinary secretion in a very high degree, as well, with respect to quantity, as to its composition. They produce these changes partly by acting on other organs as it were antagonistically, as purgatives for example, partly by a direct action on the kidneys, as saline medicines, and partly by producing a change in the blood. Some diminish the urinary secretion, as purgatives, opium, &c., others increase it, and thence are called diuretics. The changes in the composition have been scarcely at all investigated, and we only know that many medicinal substances are again found in the urine, (salts, colouring matter, &c.) and that others change its odour (turpentine, asparagus, &c.)

Those medicinal substances which increase the quantity of the urine, yield thereby a urine which is deficient in solid constituents, and which accordingly has a less specific gravity than before. This is frequently anticipated, in as much as such urine generally continues clear on cooling, tho' this opinion is not confirmed by experiment. In diabetes the urine is often very clear, and yet not unfrequently it has a very great specific gravity. Accordingly the conclusion is by no means correct in every instance, that a clear urine is less concentrated, than a urine which, on cooling, yields a precipitate. The uric acid, for instance, which is very scantily soluble in water, falls to the bottom on the cooling of the urine, as soon as it is secreted from the blood in greater quantity, without the urine still being of a great specific gravity.

For the investigation of these facts I have collected some observations made on dropsical patients, and though several salts were present, I constantly found *that the specific gravity of the urine is diminished, if its quantity be increased.* In one case the urine was of the specific gravity 1,022, and on the following day, after 15 grains of carbonate of potass in solution were taken every three hours, its specific gravity fell to 1,01. The quantity of the urine secreted was at this time increased to about double. In the other cases, this difference, though less palpable, was still evident. We possess similar results with respect to other secretions: thus in the case of salivation by mercury, the specific gravity of the saliva is diminished to

1,0021—1,0038 (instead of 1,0062—1,0088). It is probable that every secretion, which becomes more copiously secreted than before, in consequence of the employment of a medicinal substance, also becomes poorer in solid constituents than before. The secretion of the intestinal mucous membrane are always rendered very watery after large doses of purgatives. The differences which the individual articles present, have not as yet been investigated. This increased secretion of urine with a small proportion of solid constituents by means of diuretics, and consequently of less specific gravity than the blood, is a fact, which, as I shall presently shew, is of considerable importance. Investigations on the changes in the relative quantity of the constituents of the urine by diuretics we do not possess. In salivation after the use of mercury the relative quantity of the constituents of the saliva is essentially changed; the quantity of the salts has increased, while that of the salivary material has become less. On the appearance of new substances in the urine after the use of diuretics we possess no facts, only some few conjectures; thus, during the use of turpentine, we find the urine of a peculiar odour. Those medicinal substances, which are easily found in small quantity in solution with organic substances, are also found again in the urine, as the salts for instance. The other substances are not detected in the urine.

Diuretic medicines are very various. We have medicines, which in a healthy individual produce an increased urinary secretion by increasing the action of the kidneys, (diuretic properly so called). Other medicinal substances, on the contrary, produce their diuretic effect by removing the cause of the diminished urinary secretion, (diuretics in a therapeutical sense); the increased secretion in this case is only an adventitious result. Water itself increases the secretion of urine, as it must be constantly removed again through the skin, lungs, intestinal canal, and kidneys.

I. Diuretics whose Physiological Action is to produce an increased Secretion of Urine.

These occasion a more copious secretion of urine than existed previously, if there be a sufficient quantity of fluid in the body. If the kidneys be the seat of irritation or inflammation, these increase it, and inflammation is even occasioned by violent diuretics.

To these belong:—

1. *Acrid Diuretics*—which act directly on the kidneys. Inflammation of the kidneys is increased by them. We observe, in many instances, strangury and the secretion of bloody urine produced, in some cases, inflammation of the bladder and of the kidneys, if these medicines be persevered in and given in large doses. Those substances produce inflammation externally only in those parts to which they are directly applied, but no where else. To these belong cantharides, squill root, colchicum seeds and root, mustard seeds, Mezereon bark, &c.

2. *Stimulating Diuretics.* These excite all the functions more or less. The acceleration of the circulation is here of great influence, because in a

given time a greater quantity of blood is sent to the kidneys than before. But stimulating medicines act directly also on the kidneys, because small doses of them, which are followed by an almost imperceptible acceleration of the circulation, manifestly increase an inflammation of the kidneys. This excitement is the more violent, the more closely the exciting substances approximate to acrid substances, as for instance, turpentine. To this class belong alcohol, ether, the stimulating ethereal oils and resins, balsams, &c., and consequently all medicinal substances which contain these ingredients as active principles.

3. *Saline and Alkaline Diuretics.* These substances act at one time by changing the mass of blood, as I shall shew presently, and secondly also by directly exciting the kidneys. No inflammation is excited by these, but one already existing is exasperated by them. They act here in the same way as they act on the first place of contact (the stomach, wounds, &c.) where they increase the secretion, without producing similar phenomena in the course of the circulation, whilst at the same time they produce even an antiphlogistic effect. To these belong potass and soda, and their combinations with strong and weak acids, &c.

These diuretic substances act directly on the kidneys, after being absorbed and taken into the mass of blood. The proofs are as follow:

A. The neutral salts and alkaline substances we can find again in the urine. The acid is frequently changed, but the base continues. After the use of alkaline substances the urine very soon becomes alkaline. We find that a given quantity of urine contains much more of these salts than an equal quantity of blood. The acrid and stimulating substances have not yet been detected in the urine by chemical examination, for the peculiar odour of the urine occasioned by the use of oil of turpentine is no proof of the presence of the latter, but merely points out a change in the urine.

B. The degree of local actions bears no proportion to the increase of the diuresis. After large doses of acrid medicines vomiting and purging take place, and even inflammation may follow: the local action is accordingly very considerable, but the medicinal substance is soon evacuated again, and therefore cannot be absorbed; consequently either no increased diuresis follows, or at least a diuresis very slightly increased. If, on the contrary, the substance be administered in doses so regulated, that its local action is not too violent, and that it continues for a sufficient length of time in contact with the intestinal mucous membrane, so as to become absorbed, it then acts most violently on the kidneys. The same may be said of stimulating, saline, and alkaline diuretics, which act most powerfully, when the local action is not too great. Accordingly we cannot explain the diuretic action sympathetically through local irritation of the intestinal canal.

C. The time after which the increased diuresis commences corresponds with the time in which absorption can follow. All sympathetic phenomena are observed instantaneously; and hence, if these substances acted in this way, the increased diuresis should also take place immediately. But this does not follow till a later period; often not till after the lapse of several hours, in which time absorption may take place.

D. The same series of changes which these substances produce in the intestinal canal on wounds, &c., we all find produced in the kindeys, if they be given in a sufficient, but not in too large a quantity. Cantharides produce inflammation on the epidermis in wounds, in the stomach, &c., and by the continued administration of large doses of this substance, inflammation of the bladder and kidneys also takes place. The stimulating diuretic substances increase inflammation in the stomach, &c., and exasperate inflammation in the kidneys. The salts which can be detected in the urine by chemical examination act in a manner so as to increase the inflammation in the first place of contact, and after absorption in the kidneys, so as to diminish, on the contrary, the inflammation, which makes its appearance in other organs.

The principle on which these substances increase the urinary secretion, and the manner in which this effect is brought about, we know not. We only know that the salts are secreted with the urine in a more concentrated form than they exist in the blood, and that the direct action of the other substances on the kidneys can be shown with the greatest probability. This is what is called a specific action.

In morbid deposition of serum in the meshes of the cellular tissue, or in the different cavities of the body, as in dropsy, absorption of the serum, and the cure of the disease, frequently take place simultaneously with increased diuresis after the employment of these diuretic substances. The diseases which depend on an acrimony of the blood are often relieved and cured by these substances; to this class of diseases may be referred cutaneous eruptions, &c.

The cure of dropsy by these substances has been generally accounted for in such a way, as that a specific action on the lymphatic vessels has been assigned to them, and this action was derived from a power inherent in them of promoting absorption. No substance has been proved to possess such specific action on these vessels; but the increase of absorption is probably owing to a change effected in the blood.

According to our present knowledge of absorption and considering all the phenomena presented by the increased diuresis through the medium of the substances now mentioned, the absorption of the serum in dropsies, and the cure of these diseases may be explained in the following manner. The first momentum is the stimulation of the kidneys, and the secretion of a urine deficient in solid constituents. If we now compare the composition and specific gravity of this urine with those of the blood, the blood must necessarily become richer in solid constituents, inasmuch as it possesses much more of these ingredients than the urine secreted. But in consequence of this, the blood has a greater affinity for fluids than before, just as we see that violent thirst is occasioned if much water be abstracted from the body by excessive cutaneous perspiration. In the same manner absorption is caused here by the increased attraction of the blood for serum. A similar physical phenomenon is observed, if a glass tube, open at both ends, be closed at one end with a membrane, and be half-filled with a concentrated solution of a salt, and be immersed to this depth in pure water, the concentrated solution attracts the water through the membrane, and rises in the glass tube.

For the cure of those diseases by means of diuretics, which are said to depend on acrimony, some have endeavoured to account by ascribing to these medicines a power of producing a change in the blood. But this is not proved in such a way as to enable us to explain any thing with certainty. It is much more probable that these acrimonious admixtures with the blood, if they really are the occasion of these diseases, are removed along with the urine, in consequence of the action of the kidneys being called forth.

Analogy is also in favour of this explanation, as these same diseases are cured by cathartics, which produce an irritation of the intestinal canal, and thereby an increased secretion of its mucous membrane. In the same manner as diuretics increase the secretion of the kidneys, discharges of fluid take place in the latter case. Purgatives act neither sympathetically, nor directly on the lymphatic vessels, but by exciting the secretion of the intestinal canal, and separating a watery fluid from the blood.

II. DIURETICS WHOSE THERAPEUTIC ACTION OCCASIONS AN INCREASED SECRETION OF URINE.

The diuretic means which call forth an increased secretion of urine in disease are very various. Every means which can remove the cause of a diminished urinary secretion belongs to this head.

The abstraction of blood by venæsection, leeches, &c., bring about a more copious secretion of urine, if an inflammation of the kidneys be present, if inflammation of other parts, or an inflammatory fever be followed by a scanty secretion of urine. By this means the inflammation, which was the cause of the diminished secretion of urine, is put a stop to.

Neutral salts, and alkalies also, produce a more copious secretion of urine. In the case of inflammation, the cause of the diminished diuresis is checked by these means, if the inflammation has not its seat in the intestinal canal and kidneys. In impeded circulation occasioned by intumescence, or other morbid states of the liver, spleen, and other organs, dropsy and a diminished secretion of the urine occur. Many of these causes of impeded circulation are curable by the means just mentioned, and with the removal of the cause the serum is again taken up by the vessels. They here act as resolvents.

Temperant remedies (acida vegetabilia) act diuretically in inflammations, by their mitigating the symptoms of inflammation.

Emollients obviously occasion an increased diuresis in inflammation of the kidneys. They mitigate the inflammation, and thereby increase the secretion of urine.

Tonics also increase diuresis. In consequence of an atony of the solids, which atony coincides more or less with a blood poor in solid constituents, dropsy takes place. This dropsy is removed by the digestive functions being strengthened so as to form more blood, and blood of a good quality (by bitters, bark, iron, &c.), and so as to increase the tone of the tissues (by iron, bark, and other astringents.) By these means the cause of the dropsy, viz. the defective formation of blood and the atony of the tissues, is removed.

Digitalis possesses the peculiar property of lessening the heart's action, of bringing down the pulse from 80 to 60 or 50, &c., and of diminishing the strength of the pulse, whereby it sets the kidneys to work simultaneously as an active remedy. Accordingly, if the dropsy is a consequence of an enlargement or hypertrophy of the left ventricle, digitalis mitigates the violent action of the heart thereby produced, and the dropsy disappears for some time; but this does not cure the heart disease, and the dropsy accordingly returns. By lessening the heart's action, retarding the circulation, and by directly increasing the urinary secretion, digitalis is also useful in inflammatory dropsy, more especially if exsudation impends or has already occurred, and the inflammation be first broken down by venæsection, &c.

The acrid (scharfen) medicines are diuretic, if the diminished urinary secretion is a consequence of torpor of the kidneys. Whether it results from paralysis depending on the brain and spinal cord, can only be conjectured, but not known with certainty.

Stimulating remedies increase the diminished urinary secretion in the same case, and especially in deficient activity of the circulation. The dropsy is seldom cured by these means alone, as in torpor of the kidneys acrid remedies are to be preferred; and dropsy very seldom occurs in consequence of the heart's inaction, without organic disease. But these remedies are of the utmost importance when the morbid matter exists in the blood, keeps up the disease, and is not eliminated. They accelerate the circulation, direct more blood to the kidneys in a given time, to the skin also, &c., and call into action at the same time the functions of those organs. Accordingly, copious secretions often follow the employment of these means, crises take place, and stimulants may therefore in such cases become tonic remedies, &c., by removing the cause which interferes with the action of the kidneys.

Antispasmodics are just as various as the causes of spasm. Almost all medicines may act as antispasmodics under certain circumstances, but some pre-eminently so, in primary spasmodic diseases of an entirely different kind, as narcotics, for instance, and those with which we are able to produce a powerful counter-irritation. If the diminished urinary secretion be a consequence of spasm, the antispasmodic medicine is, in a therapeutical point of view, a diuretic. Thus we often see an increased diuresis occur in consequence of an emetic, and that either in consequence of the general counter-irritation, or of the general shock and excitement given to the system by this means. In this way opium, which in healthy persons diminishes the urinary secretion, may, by removing spasm, call forth a more copious secretion of urine.

If from this point of view we consider the action of those remedies which are followed by an increased urinary secretion in dropsy, we must next turn our attention to the primary affection, which is followed by dropsy as a symptom in the progress of the disease. If we connect both these series of facts with our present experience at the sick bed, we may then consider the following points as established.

The dropsy which is a consequence of a so-called inactivity of kidneys, or of a diminished secretion from the skin, &c., is diminished or cured by those remedies which directly excite the action of the kidneys. In the first case, the cause of the disease is removed; in the latter, the increased activity in the kidneys takes on the function of the skin, &c., and there then remains for us the problem of regulating the function of the skin, which is more easily accomplished, if the accumulation of water is first stopped.

The dropsy, which is a consequence of a structural change in the kidneys, is but seldom cured. The diagnosis is frequently uncertain, and, above all. the kind of structural change for the most part continues unknown to us till death. Medullary sarcoma and similar organic diseases of the kidneys are at present still incurable. The structural change, which Bright, and subsequently Gregory, Christison and Osborne, have detected in the kidneys, appears to be increased by acrid, stimulating and saline diuretics, and to require partly the abstraction of blood, partly purgatives, as well as careful attention to the cutaneous transpiration.

The dropsy which is a consequence of an impeded circulation, is cured by removing the cause of the latter. A tumor (Balggeschwulst), &c. may create œdema by pressure on the veins, and in such a case the œdema disappears with the removal of the tumor. Tumors of the liver, spleen, &c., depositions in these organs, and degeneration of them, impede the return of the blood, and in this way may occasion dropsy. If these depositions and swellings be still resolvable, the dropsy may be removed by neutral salts and alkaline remedies, which act on these organs by changing the mass of blood. What are called obstructions in the liver, spleen, in the portal system, and in the lymphatic vessels, are often removed by these resolvents, often cured by promoting the secretions of the liver and capillary vessels of the intestinal mucous membrane (cathartics in small and large doses). But incurable degenerations often occasion the dropsy by impeding the return of the blood, and in such a case no remedy cures the dropsy.

The dropsy which is the consequence of inflammation, as hydrothorax after pleuritis, is removed by those means which mitigate or remove inflammation, whether by a change in the composition of the blood, or by retarding the circulation, and which have a solvent action on the effusion, if it is no longer fluid, and at the same time effect an increased diuresis. To these belong bloodletting, the neutral salts, and alkaline remedies, which diminish inflammation by changing the blood, and at the same time act on the exsudation. Mascagni showed that carbonate of potass dissolves the solid exsudation in pleuritis, and accordingly this remedy is employed with the best results when auscultation and percussion have detected an effusion into the thoracic cavity. To this class also belongs digitalis, in as far as it retards the circulation and excites the action of the kidneys.

The dropsy which is a consequence of atony depends on a deficient formation of blood, and insufficient contractility of the tissues, which are not properly nourished. In such a case the digestive powers are to be strengthened by bitters, quinine, iron, &c., and from mere bitters the change may be made to astringent remedies. Herewith the removal of the cause, the dropsy, which is but a symtom, disappears.

The dropsy which is a consequence of dilatation and hypertrophy of the left ventricle, is often removed for a considerable time, but again returns. By bloodletting, should plethora exist at the same time, a temporary improvement is effected, and by the use of digitalis, which diminishes the abnormal energy of the heart's action, the dropsy, if it have not gone too far, is often removed for some time, but returns, if the effect of the remedy has ceased for any length of time. The cause of the dropsy is in this case suspended for a long time by diminishing the heart's action, but the hypertrophy is not cured thereby.

If the cause of the dropsy, or rather the primary disease, is not to be detected, several modes of treatment are employed, according to the view which the physician adopts in determining the casual relation.

If the case be one of hydrops saccatus, those remedies are seldom of use, and a rational line of treatment verified by experience has not been yet established.

If the effusion (as, for instance, into the pleura) be no longer fluid, and the serous membrane be at the same time very much affected, these means are sometimes of use after paracentesis, but seldom effect a perfect cure. Saline and alkaline remedies hitherto proved most serviceable in these cases, and that in the two-fold relation, as diuretics in the more limited sense of the word, and as resolvents.

SOME RECENT PUBLICATIONS ON ANATOMY.

I. OBSERVATIONS ON THE STRUCTURE AND FUNCTIONS OF THE SPINAL CORD. By *R. D. Grainger*, Lecturer on Anatomy and Physiology. 8vo., pp. 159. London, 1837.

II. and III. GUY'S HOSPITAL REPORT, Nos. IV. and V. October, 1837.

IV. ELEMENTS OF PHYSIOLOGY. By *J. Muller*, M.D., Professor of Anatomy and Physiology in the University of Berlin, &c. Translated from the German, with Notes, by *William Baly*, Member of the Royal College of Surgeons, &c. Illustrated with Steel Plates and numerous Wood Engravings. Part I. Containing General Physiology; the Blood and Circulating System; the Lymph and Lymphatic System; Nutrition, Growth, and Reproduction. 8vo., sewed, pp. 428. London, 1837. Price Nine Shillings.

V. ELEMENTS OF ANATOMY. By *Jones Quain*, M.D. Fourth Edition, revised and enlarged. Illustrated with Steel Plates and numerous Engravings on Wood. Part I. Price Twelve Shillings. 8vo., sewed, pp. 491. London, 1837.

VI. ANATOMICAL PLATES. By *Jones Quain*, M.D.

IT would be idle in us insisting on the importance of anatomical study. When medicine was more empirical and less scientific than it now is, when its anatomical basis was little understood, then the anatomist was looked on as a sort of scholiast, neither adapted for, nor conversant with, the practical offices of the profession. But so soon as surgery became a science, and the investigation of the tissues gave the breath of generalization to the previous observations of the empirical physicians, it began to be less and less an axiom, that attention to anatomy was a source of disqualification for practice.

At the present day, it will be found that the best physicians and surgeons have either been engaged in teaching anatomy, or have paid considerable attention to it. The old race of empirical routinists is fast dying away, and the young men who are rising into notoriety are honourably distinguished by their sound scientific education.

Anatomy, however, is an eminently progressive science. Being one of facts, it is capable of accumulative advancement, for a single unit added to any number of units makes that one the more. But it is not simply from the addition of a few fresh facts that Human Anatomy is progressive; it is from the application of the analogical method to it. Comparative anatomy, and, consequently, comparative physiology, remained nearly stationary from the time of Aristotle down to that of Daubenton. Cuvier generalized, Hunter reasoned, and Blumenbach, and the St. Hilaires, and Carus, and a host of others, dissected, compared, and systematized. The results of their labours are now beginning to appear. General physiology is rearing its head as one of the most noble, most philosophical, and most delightful branches of human knowledge; and, while it is highly beautiful in itself, it is doing that for human physiology which general anatomy had already done for human anatomy—it is merging special facts into general laws, and shewing that even what appeared exceptions are fragments of general laws themselves.

It is impossible for one who is not always in the schools to keep pace with the advance of elementary knowledge, unless he is assisted by the periodical press. That carries to him in a cheap, a condensed, and generally in an engaging form, the new facts and new doctrines daily bubbling up through the busy and fermenting mass of intelligence. A well-informed editor of a journal of science is both an useful and an honourable member of the profession to which he may happen to belong. If his own mind has a bent towards true philosophy, he must necessarily promote, in a sensible degree, the general taste for it. And perhaps there are few reflexions more delightful than the consciousness on the part of any man, that, by his humble efforts, he is assisting the great cause of truth, and advancing the real welfare of his species.

We have lately adopted the plan, which we believe to be a good one, of directing the attention of our readers into particular channels. It is folly to suppose that the mass of medical men can be made bibliographers, or transcendentalists, or Scriblerus's. They must attend to the every-day duties of an arduous profession, exhausting their physical, and painfully engaging their mental powers. To such men periodicals are eminently necessary, and the kind of information they should bring in such as will apply more or less directly to the practical business of their lives. The leading facts, the great generalizations, a sketch of the advance of knowledge, and, above all, a right direction of their minds, are the things they want, the things which journals should give.

It is in accordance with such views that we have insisted so continually on the cultivation of an exact spirit of enquiry—that we have dwelt on the importance of morbid anatomy—that we have urged the application of statistics—that we are prompting hospital surgeons and physicians to the publications of clinical reports—that we have directed attention to the advances of anatomy. Our aims, in short, and we have frequently proclaimed them, are utilitarian in the highest and the widest sense. But we have said enough.

The first work to which we shall advert is that of Mr. Grainger.

1. ON THE STRUCTURE AND FUNCTIONS OF THE SPINAL CORD.

The objects of Mr. Grainger can hardly be explained so well as in the words of his own preface. And that explanation is necessary to the reader, who wishes to comprehend the objects of the author.

"In the present treatise," he says, "an attempt is made to obtain some definite information, respecting a subject of the highest physiological import,—the true seat of sensation. A reference to the established doctrines is sufficient to convince every person whose judgment is not biassed by theories, as fallacious as they are universal, that our knowledge of the properties possessed by the nervous system, is not only inadequate satisfactorily to elucidate any one function of the animal economy: but is, in more than one respect, *absolutely opposed to the dictates of common sense.* In contemplating the operations of the inorganic world, nothing is perceived but harmony, regularity, and exactness; whilst, if we regard the phenomena of nature, in the animal and vegetable kingdoms, as they are now interpreted, we discern only confusion and uncertainty.

The total insufficiency of the principles of physiology, as they are at present taught, is universally acknowledged; and a strong and daily increasing conviction has arisen, that the time is not far distant, when the scattered facts with which this science abounds, will be shown to depend on a few simple and general laws. The magnificent discoveries of comparative and developmental anatomy, by demonstrating the wonderful uniformity which prevails in the construction of animal bodies, plainly evince that such an anticipation is not visionary; for it would be an unparalleled anomaly in the laws of creation, if such unity of organization as is displayed, not only in the nervous, osseous, glandular, and other systems, but in the formation of the entire frame, were not accompained by a corresponding simplicity in the laws which regulate the action of this perfect machinery.

An extended and careful examination of the reflex power of the spinal cord, discovered by Dr. Marshal Hall and professor Muller, has induced me to believe that it is only a part of a great principle, connected with the nervous system; from the application of which, in the investigation of all those motions which have their source in contractility, the most valuable results may be anticipated, both in the animal and vegetable kingdoms. The laws by which this important power is regulated, are as simple and exact as those of gravity itself; and it is this circumstance, more especially, which seems to indicate the existence of an universal principle in the movements of organised bodies.

One of my principle objects has been to detect the anatomy by which the reflex power operates; and, although this branch of the inquiry needs much further prosecution, I am, myself, convinced that a peculiar order of nerves, called the excitomotory, not only exist in the cerebro-spinal, but, likewise, in the ganglionic system. The contractile power possessed by plants, has induced many anatomists to conclude that those bodies are provided with some kind of nervous system; and, if it should be proved, hereafter, that the vessels and tubes of vegetables do act in obedience to the reflex principle, it is certain that they must be furnished with organs which, however much they may be modified in their physical characters, correspond in office with the excito-motory system of animals.

It may, perhaps, be thought, that more importance is attached to the anatomy connected with this principle than it deserves; but although no one is more willing than myself to acknowledge the profound spirit of physiology, which enabled Dr. Hall, unaided by the scalpel, to penetrate the veil which has so long obscured the operations of the nervous system; yet it cannot escape the recollection how many theories, none, perhaps, so important, but bearing equally with this the semblance of probability, have ultimately been classed in the number of ingenious but unfounded speculations. Such being the lesson that experience has taught us, it is, perhaps, not too much to assert, that if the physiologist be anxious to establish, by the results of his enquiries, a great principle of the animal economy, he must be satisfied previously to submit his conclusions to the test of anatomy."

It may perhaps be considered a strong mode of expressing himself, when Mr. Grainger tells us that our common physiological opinions are obsolutely opposed to the dictates of common sense. But we shall see presently, whether that case is established.

The work itself consists of seven chapters and an appendix. The first chapter contains—A Brief Review of the Opinions which have been entertained, relative to the Functions of the Spinal Cord;—the second chapter—The Properties of the Grey and Fibrous Substances;—the third chapter—Anatomy of the Spinal Cord and Nerves;—the fourth chapter—Physiology of the Spinal Cord;—the fifth chapter—General Results;—the sixth chapter—Theory of the Functions of the Sympathetic Nerve;—and the seventh—Theory of Muscular Action.

I. A BRIEF REVIEW OF THE OPINIONS WHICH HAVE BEEN ENTERTAINED, RELATIVE TO THE FUNCTIONS OF THE SPINAL CORD.

We may readily admit that, great as have been the modern discoveries of Bell, Mayo, Magendie, and others, in reference to the functions of the nervous system, those functions are still imperfectly understood, and that our ideas of it are vague in many instances, and contradictory in some.

The questions that more especially affect us at present are the following:

1. What is the seat of sensation and volition?

2. What are the powers and attributes of the spinal cord?

3. Is there any mechanism by which those properties of the spinal cord and medulla oblongata, which have been more particularly explained by Dr. Hall, and are now known as the "excito-motory," are effected?

1. The opinions on the precise seat of sensation and volition are unsatisfactory and conflicting. Some have attributed these faculties to the spinal cord—the majority have placed them in the medulla oblongata—some have considered them the property of the cerebral hemispheres, Much of the confusion has resulted from not distinguishing with accuracy the "excito-motory" actions. Mr. Grainger's sentiments are expressed in a passage which proclaims him one of the class of physiologists who regard the cerebral hemispheres as the sole depositories of these important properties.

"All these details sufficiently prove that the opinion which prevail respecting the seat of sensation and volition, are anything but satisfactory. Although it is with great diffidence that I venture to disagree from so many high authorities, yet, I cannot refrain from expressing my conviction that those physiologists who contend that sensation and volition are properties either of the spinal cord in general, or of that part of it more particularly which is placed in the cranium, are equally in error. I believe it is susceptible of proof, although this has not yet been satisfactorily accomplished, that the brain is the sole organ of sensation and volition; and that the spinal cord is only connected with the production of true voluntary motion, in consequence of one part of its structure serving as the conductor of the volitions of the cerebrum." 11.

2. Setting aside the possession of sensation and volition, of which we

have at present, deprived the spinal cord, it is universally admitted to serve as the conductor of these faculties, and it is now generally admitted also, to possess with its nerves the "excito-motory" function.

"It is certain," observes Mr. Grainger, "that the spinal cord has a most important and immediate connexion, with the arteries of the muscles which are called voluntary; that it enjoys a power of exciting these to contract independently of the brain; and that it is this circumstance which has been the cause of all the conflicting opinions and evidence, which have been advanced on this subject. The discovery by Dr. M. Hall and professor Muller, of the real nature of the reflex function of the spinal cord, appears to afford a clue to the whole of this mystery; and when developed to its full extent, is probably capable of explaining most, if not all, of those anomalies which so seriously obstruct the successful cultivation of the physiology of the nervous system.

It was reserved for Dr. M. Hall to penetrate the mystery which had baffled all other physiologists; and to prove, not only that the phenomena which results from the reflex action of the spinal cord are essentially distinct from sensation and volition; but, likewise, to perceive, what had never before been surmised the necessity of an independent division of the nervous system, equally distinct from the great sympathetic and the true cerebral system, by the agency of which, these peculiar phenomena are accomplished. Until these important distinctions were announced, no physiologist could explain how those motions, which are usually termed involuntary, but which must now be called excited, could take place in muscles of a voluntary character. How, for example, the actions of the diaphragm, which are susceptible of being suspended and otherwise controlled by the will, continue nevertheless during sleep, in coma, in the anencephalous infant, and in animals experimentally deprived of the brain: how the muscles of the face, which are so immediately under the influence of volition, become excited, together with a multitude of other muscles, in sneezing: how the muscles of the throat, which in speaking and singing are so obedient to the mental impulse, are placed beyond its control in swallowing, coughing, and vomiting: or, in fine, how the muscles of volition can be excited to contract by impressions made on the sentient surface of the skin, when all volition and sensation are destroyed by the section of the spinal cord. These, and a multitude of other apparently conflicting phenomena of the nervous system, may be all readily solved according to the views of Dr. M. Hall." 13.

We need not go into the hypothesis of Dr. Hall, having lately devoted an article to its exposition. But this we will say. We were at first inclined to think Dr. Hall's opinions fanciful, and to constitute no great improvement on previous knowledge. But time and reflection, and the development on Dr. Hall's part of his own views, have led us to attach a much higher degree of merit and importance to them. We have observed, at the same time, with little surprise but with less satisfaction, the attempts of several persons to foist on the public some obscure hints, and some mystical conjectures as complete anticipations of the elaborate generalizations of Dr. Hall. This is equally unjust and foolish, and will injure that gentleman as little as it will benefit those who advance such claims.

3. In answer to the third question, we may observe that, hitherto, no mechanism has been discovered, for the express performance of the duties of the excito-motory system. But it is, Mr. Grainger's object to ascertain whether any such mechanism exists.

On the whole, we may sum up, in the words of Mr. Grainger, that notwithstanding certain difficulties and anomalies that never have been explained, the prevaling opinion has been, and still continues to be, that sensation and volition are properties of the medulla oblongata, and consequently that they remain after the loss of the brain.

It is further evident, that many writers suppose the spinal cord also to be more or less connected with sensation, and especially with the production of voluntary motion. But although these doctrines are so generally received, there are few physiologists, who do not perceive that they are utterly insufficient to explain the phenomena of the nervous system, and that they are daily contradicted by the effects of disease.

II. PROPERTIES OF THE GREY AND FIBROUS SUBSTANCES.

Of course it is a great object to ascertain the precise properties of the grey and fibrous substances found in the central organs of the nervous system. But the inquiry is attended with difficulty, and our knowledge will be found to be rather inferential and analogical than direct and satisfactory.

1. To Gall and Spurzheim are due the merits of having called public attention to the anatomy of the nervous system, and of having originated the great discoveries of our days which hinge essentially upon that anatomy.

Gall and Spurzheim contended that the grey matter secretes or forms the white fibres, and that this is its principal office.

This opinion is contradicted—first, by the observation of Tiedemann, that the fibrous matter appears before the grey; secondly, by the fact, that the material of the nervous system is derived from the plastic substance, or blastema of the embryo; thirdly, by all analogy.

2. The doctrine most commonly received at the present day considers the fibres of the white matter as subordinate to the grey.

The main reasonings on which this opinion is founded are the following: —1. The importance of an organ in the economy is dependent on and may be measured by the quantity of blood that it receives. Now the grey nervous matter is demonstrably much more vascular than the white. 2, The grey matter is found to increase in quantity in the ratio of the nervous energy. The observations of Mr. Grainger upon this head put the case so well, and are so adequate for the purpose, that we cannot do better than transcribe them.

> "A second circumstance bearing upon the present question is, that *the grey matter increases in quantity in the exact ratio of the nervous energy.* We learn from a comparative examination of the brain, that the intellectual operations become diversified and energetic in proportion as the grey substance is accumulated; and it is in this respect especially, more than in that of relative volume, that the brains of the lower animals differ when compared with each other, or with the human cerebrum, the great peculiarity of which consists of the very large proportion of its grey matter, when contrasted with the nerves attached to its base. A very accurate test of the intelligence possessed by different animals, and even by different individuals of the human species,* is thus afforded by the

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* "In advancing this opinion, which has been supported by so many distinguished physiologists, I beg to express my dissent from the conclusion attempted to be drawn from it by some writers, that such a theory displays the character of materialism. The merits of that long-disputed question are the touched by the observations offered in the text; for they merely relate to not

development of the convolutions, or, in other words, of the grey substance; for the so-called convolutions of the brain are only another illustration of that principle so beautifully displayed in the formation of the glands, according to which the largest possible quantity of materials is contained in the smallest possible space.

But the condition of the cerebro-spinal axis, at the time of birth, affords, perhaps, the most satisfactory evidence on this point. At that period, the grey matter of the cerebrum is well known to be very defective, so much so, indeed, that the convolution are as it were in the first stage of their formation, being only marked out by superficial fissures, almost confined to the surface of the brain: whilst at this indentical period, the spinal cord, owing to the imperfect development of its fibrous part, (which, as will be subsequently shown, is allied with the exercise of sensation and volition,) contains a larger quantity proportionally, of grey matter than it does in the adult; in consequence of which, according to the remark of Professor Arnold, that matter, which in the adult is placed so deeply in the interior, approaches much nearer to the external surface. Now at this particular time, the true cerebral functions, consisting of the intellectual faculties, sensation and volition, are almost entirely, if not for a brief period totally wanting; whilst the true spinal functions are in full activity. It is impossible to adduce any more striking proof than this, to demonstrate that the extent of the power inherent in the nervous system, depends on the quantity of the grey matter.

Professor Tiedemann, in his valuable work on the development of the brain, has incidentally mentioned a fact which bears on this inquiry: he has found that in the torpedo, there is a mass of grey substance placed in connexion with the fifth and eighth nerves supplying the electrical organs, larger in size than the cerebellum itself, whilst in the common skaite no such mass exists. An exactly analogous fact is furnished by the comparative anatomy of the lobe of the olfactory nerve; for, in animals distinguished by the acuteness of their smell, that body is remarkably large when contrasted with those in which that sense is less perfect. The object of such formations cannot be mistaken; it is evidently to generate power.

Lastly, it may be mentioned in corroboration of the opinion here advanced, that the grey matter is only met with in those parts of the nervous system which are known to be the seat of power; that is to say, in the encephalon, the spinal cord, and the ganglions; it is wanting, notwithstanding the assertion of Monro to the contrary, in those parts—namely, the nerves—which are proved not to have the capability of originating power. 21.

3. On a careful consideration of the preceding facts, and of the conclusions towards which they point, it will appear that the most important offices of the nervous system are in all probability performed by the grey matter. If these be so, the part played by the white must be subordinate. Conduction of the nervous power is seemingly its office. In the nerves such conduction is evident enough, as well as the incapability of originating power. In the brain the proof of this becomes more difficult, the white fibres and grey substance being so inseparably mingled. But the dissections of the hardened brain corroborate, to a great extent, the suggestions of analogy, and point

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material instrument by which the nervous power, whatever it may be, operates. Even the inquiry respecting the character of that power, which I consider to be a most legitimate subject of physiological inquiry, has nothing to do with the nature of the soul; the two questions are essentially distinct from each other, and as such they ought to be treated."

out, in apparently a satisfactory manner, fibres of sensation and volition proceeding from the spinal cord, transverse and longitudinal commissural fibres, and peripheral fibres uniting the individual convolutions. Microscopical researches would seem to discover "*varicose fibres*," peculiar to the white substance of the cerebrum; but the microscope has played us false in anatomy too often to challenge much respect from us. We may conclude then that, in the present state of our knowledge, it is most reasonable to believe that the phenomena exhibited by the cerebro-spinal system are dependent on the grey matter, and that the white is the medium of conduction. Whether this is the whole truth, it would be folly to affect to determine.

III. Anatomy of the Spinal Cord and Nerves.

It is not necessary to enter fully into the contents of this chapter. Many of the facts alluded to in it are more or less familiarly known; and we shall principally confine ourselves to what appear to be novel statements on the part of Mr. Grainger.

1. The *grey matter* of the cord consists of two crescentic portions, one in each lateral segment of the cord, so disposed that the concavity of either crescent looks outwards. These two portions are invariably connected by an intermediate band of grey matter, which stretches across the median plane, just behind the bottom of the anterior median fissure of the cord. Thus, the two sides of the cord are in communication with each other.

2. By a longitudinal section, it is seen that the grey matter passes continuously from below upwards. Although it varies much in colour, and is more or less intermixed with fibrous substance, it may be observed to pass continuously through the medulla oblongata, the pons Varolii, the optic thalami, and the striated bodies, on the outer border of which it is known to cease; never in this direction becoming continuous with the grey matter of the convolutions. The grey matter of the crus cerebri towards the inner side, is also joined with that of the pons Tarini, tuber cinereum, locus perforatus anticus, and thus with the neighbouring convolutions of the anterior and middle lobes of the brain. Although there is no direct junction between the grey matter of the cord and that of the optic tubercles, yet as these bodies are united with the optic thalami by grey substance, they are thus also brought into connexion with the cord itself. In the same way as the influence of an impression is transmitted from one side of the cord to the other, by the transverse process of grey matter, it is probable that by these connexions in a longitudinal direction, impressions, if sufficiently intense, are so transmitted that all the muscles may be stimulated, as happens in violent coughing and sneezing, and even probably in traumatic tetanus, from the head to the foot.

3. The relative portion of grey matter is much greater in young than in adult animals. Exactly the reverse obtains in the cerebrum, the convolutions of which, in very early life, are exceedingly imperfect.

4. The *fibrous matter* displays on the external surface of the cord certain fissures, dividing it into a number of columns. Of these fissures, two are placed on the median plane, one on the anterior, and the other on the posterior part; besides these, there are on each side two others, the anterior

and posterior lateral. The median fissures, of which the anterior is much the deepest, are for the reception of processes of the pia mater, which not only serve to convey blood-vessels towards the interior, but likewise to support and steady the divisions or columns of the cord; the anterior and posterior lateral fissures also give entrance to blood-vessels, but in addition they transmit certain filaments of the spinal nerves, which in these situations dip inwards towards the central part of the cord.

The columns thus formed are seen, on examination to be composed of longitudinal fibres.

> "It has been very generally admitted that of these columns, the anterior is for the transmission of volition, and the posterior of sensation, whilst the middle has been supposed by Sir C. Bell and others to be in a more especial manner connected with the movements of respiration. But it is very doubtful if all this be correct; for though the spinal cord undoubtedly contains a number of fibres anatomically and physiologically distinct from each other, for the transmission of volition and sensation, yet it is by no means certain that these are placed in the anterior and posterior columns respectively. On the contrary, Sir. C. Bell has himself stated, that he has not hitherto succeeded in tracing a connexion between the posterior or sensitive roots of the nerves and the posterior column; and Mr. Swan remarks that there is a direct line of separation between the anterior and posterior columns placed next the median plane, and that lateral part which gives origin to the nerves. My experience entirely coincides with this latter statement; as, notwithstanding the most careful examination, I have never been able to trace any fibres from the nerves into the fasciculi composing the anterior and posterior columns; the anterior and posterior lateral fissures appear definitely to limit the two roots. As the properties of these columns will be again noticed in a future chapter, it is only necessary to remark further, that their fibres approaching the medulla oblongata, form a distinct decussation not only from side to side, as is seen in the corpora pyramidalia, and in the cords lately described by Sir C. Bell, but also as Mr. Solly has shown from before, backwards; that after this remarkable disposition, the fibres are still continued uninterruptedly upwards, till they reach the convolutions of the cerebrum and the laminæ of the cerebellum, where they terminate, after presenting a connexion with the grey matter, somewhat similar to the incrustation of the white fibres in the corpus striatum." 31.

On opening the anterior median furrow and separating the two lateral columns, a white layer is perceived at the bottom, the direction of the fibres of which it is difficult to determine; a somewhat similar structure is seen in the posterior median fissure. Gall and Spurzheim have represented a commissure consisting of transverse fibres joining the lateral columns; and Mr. Swan speaks of transverse threads passing from one side to the other. These fibres Mr. Grainger has satisfactorily distinguished.

5. *Anatomy of the Spinal Nerves.*—We need scarcely observe, that each spinal nerve has two roots, each of which apparently terminates in the lateral fibrous columns above described. Attempts have been made to trace these origins deeper, and Mr. Grainger gives the following account of them.

> "Although Vicq. d'Azyr had formed a similar conjecture, it appears that Gall was the first anatomist who distinctly announced that the spinal nerves are connected with the grey substance of the cord. Bellingeri subsequently adopted this opinion; but he, with justice, opposed the idea of Gall, that all the fibres of the nerves are joined with the grey matter. Bellingeri attributes both to the

anterior and posterior roots, a triple origin; the former arising by two of its roots from the white fibrous parts, and by the third root, *perhaps*, from the grey matter; the latter arising by two roots, from the fibrous part, and by the third from the posterior horn of the grey substance. Mr. Mayo, who in one place distinctly affirms that the origin of a nerve is always in part from grey matter, speaks more doubtfully of the double connexion with the grey and fibrous substances; for, when treating of the spinal nerve, he says, that the filaments of the two roots *appear* to be partly continuous with the white fasciculi of the cord, and partly to originate in the interior of the grey matter. In an earlier edition of his Physiology, Mr. Mayo has given a representation of this two-fold connexion, which is, however, very incorrect, and has been omitted in the later editions of that work.

Keuffel, Ollivier, and Weber likewise state that the nervous fibres may be followed into the grey substance, a connexion which is also admitted by Professor Arnold.

Several distinguished anatomists deny, however, the possibility of demonstrating the union of the fibres of the nerves with the grey substance of the cord. Sir C. Bell, in allusion to this subject, says, 'Some authors describe these roots as derived from the cineritious matter; this is quite at variance with my dissections.' Bellingeri himself is not certain that the anterior root is thus connected; whilst Desmoulins denies the connexion altogether." 33.

Desmoulins, indeed, contends that the grey matter does not exist in the spinal cord of reptiles and fishes, but that there is in the centre a canal filled with a serous fluid; but, as Mr. Grainger observes, there are many reasons for hesitating before we subscribe to this assertion.

Rolando describes the nerves as being connected only with the white substance. Professor Müller gives no positive opinion. Mr. Swan thinks it doubtful whether the nerves are connected with the grey matter of the cord. Mr. Grainger has examined the subject with care, and appears to have ascertained some important facts. It is impossible in articles of this nature, to abbreviate description materially. Selection is more necessary, or more practicable than analysis.

"In considering," says he, the interesting phenomena related by Dr. M. Hall, it occurred to me, that it might be possible to demonstrate the separate existence of what he has called the incident and reflex fibres; and I was thence induced to dissect, with much care, the two roots of the spinal nerves. After repeated examinations, I satisfied myself that each was connected both with the external fibrous part of the cord, and the internal grey substance. The following is what appears to be the structure: after the two roots have perforated the theca vertebralis, and so reached the surface of the cord, it is well known that their fibres begin to separate from each other; of these fibres some are lost in the white substance, whilst others, entering more deeply into the lateral furrows, are found to continue their course, nearly in a right angle with the spinal cord itself, as far as the grey substance in which they are lost. But this arrangement has no resemblance to the distinct division into fasciculi depicted by Mr. Mayo; on the contrary, it is with great care only that small, delicate, and individual threads or striæ, as it were, are traced, dipping into the lateral fissure, and at length joining the grey matter. This difficulty is owing to the fact, that whilst the fibres on the outer surface of the pia mater adhere very intimately with that strong membrane, on its inner surface, the neurilema becomes so extremely delicate, that the fibres lose much of their firmness, and break on the application of the least force; an accident which always happens, if the pia mater be raised from the surface of the spinal cord, beyond the point where the nerves are attached. When the filaments have penetrated into the fissure, they lose their rounded figure and become flattened, and are then seen passing to the grey substance at a right angle to the longitudinal fibres of the cord. It is extremely difficult, owing to the delicacy of the parts, to determine the exact relations which exist between the above filaments and the grey matter; but in a few dissections, I have been able to perceive these fibrils running like delicate striæ in the grey substance. In one instance the fibres being more distinct than usual, an appearance was presented having a remarkable resemblance to that which is seen, on making a section of the corpus striatum in a recent brain, after the method of Spurzheim. My friend and colleague Mr. Cooper, in this case counted distinctly five separate fibrils passing from the anterior root of one nerve, and there were some other fibres derived from the same root, which were not so plainly seen.

From numerous examinations I am induced to believe, that whenever the white fibres of the nervous system become connected with the grey substance, whether in the different masses of the brain, in the spinal cord, or in the ganglions, the arrangement is similar to what is seen in the section of the corpus striatum, to which reference has just been made. The fibres become as it were encrusted with the grey matter, a disposition which may even be seen by a careful inspection in the convolutions of the cerebrum, in which the radiating fibres of the crus cerebri are observed like delicate striæ.

In examining the roots of the nerves I have always relied on the assistance of the naked eye only, avoiding, for fear of deception, the use of a lens; it also appeared to be preferable to dissect the parts quite in their recent state, so that the natural structure was entirely preserved. The method of Reil which is so useful in tracing the fibres of the brain, is quite inapplicable in the present case; and Bellingeri has shewn that the use of acid renders it very difficult to distinguish the nervous filaments from the blood-vessels." 36.

Mr. Grainger had demonstrated this arrangement to his friends, some months before he visited Germany. There he met with so much disbelief, that he again demonstrated it to the entire satisfaction of Professor Bischoff, of Heidelberg. Mr. Grainger is convinced that only a part of the fibres belonging to the two roots are attached to the grey substance, a considerable number of threads being lost in the fibrous part of the cord. Many speculations have been hazarded with respect to the exact mode of communication; but, in point of fact, we know nothing positive concerning it.

The cranial nerves resemble those of the vertebral canal, in being attached both to the grey and the fibrous substances. On this point Mr. Grainger dwells at some length, and as it is an important one, we shall follow him into details.

A. *The Third, or Motor Oculi.* It is stated by Mr. Mayo, that this nerve arises by many fibrils, from the black matter in the crus cerebri. This account is perfectly correct, as far as it extends, but it is not complete; for, as Mr. Sooly has shown, some of the fibres are attached to the motor cord in the pons Varolii. But what is particularly interesting is, that after the fibres have spread out into the grey matter, or locus niger, some of them may, with care, be followed into the fibres which constitute the upper portion of the crus. Now, this part of the crus cerebri has been described by Sir C. Bell, as receiving certain fasciculi derived from the posterior or sentient column of the spinal cord, where it forms the calamus scriptorius of the fourth ventricle, and which subsequently pass upwards, through the thalami nervorum opticorum, to the cerebral hemispheres. In this manner, as the optic nerve in its origin is united with this tract, an intimate relation is established between it and the motor oculi; which, Mr. Grainger conceives, is connected with the interesting phenomenon noticed by Mr. Mayo, that, on pinching the divided cerebral end of the optic nerve, the iris contracts.

B. "In considering the disposition of the incident and reflex filaments of the posterior and anterior roots of the spinal nerves, it occurred to me, that, after being incrusted as it were by the grey matter, like the fibrils of the portio major of the fifth, in their course through the Gasserian ganglion, these two orders of fibres might become continuous with each other, and thus offer a satisfactory explanation of the mode in which impressions made on the nerves of the skin, are transmitted to those of the muscles; and although, owing to the extreme delicacy of the structure, I have not succeeded in tracing this connexion, the analogy of the third nerve renders it very probable that such an arrangement of the nervous fibres does in reality exist." 40.

C. *The Sixth, or Abductor Nerve*, proceeds our author, is usually described as arising from the corpus pyramidale; but, if the longitudinal fibres of that body be cautiously separated with the point of a fine instrument (a cataract needle, for instance,) it will be found that the larger part of the nerve sinks deeply into the substance of the medulla oblongata, and there, assuming the form of a flat cord, at length reaches the grey matter. It is difficult to perceive with what fibres of the cord this nerve is connected.

D. *The Facial Nerve*, which, at the lower edge of the pons Varolii closely approaches the decsending trunk of the portio major of the trigeminal, seems to be joined, by a few fibres, to the grey matter in the interior of the pons, and upper part of the medulla oblongata.

E. *The Sublingual Nerve*, by raising the pia mater as far as the outer border of the pyramidal body, may be observed to send a few fibres into the grey substance placed on the inner side of the corpus olivare.

F. "*The Portio Major of the Fifth*, and the pneumo-gastric in consequence of the very important part they bear in the excito-motory phenomena, require to be especially considered. The former passes, as it is known, through the whole substance of the pons Varolii, and ultimately reaches the posterior column of the medulla oblongata. In this situation, closely approaching the origins of the auditory, facial, glosso-pharyngeal, and pneumo-gastric nerves, it becomes attached not only to the white fibres, but also to a mass of grey matter, apparently continuous with that which is placed in the floor of the fourth ventricle. The remark of Mr. Mayo, that this portion of the fifth and the portia dura rise together, is full of physiological interest." 41.

G. *The Glosso-pharyngeal and Vagus.* Some of their fibres, after passing very deeply through the ascending fasciculi of the corpus restiforme, reach the grey matter placed in the posterior part of the medulla oblongata; the connexion with the fibrous structure is not so evident. Mr. Solly considers the corpus olivare to be the ganglion proper to the pneumo-gastric nerve; but no fibres of the nerves can be traced into the grey matter of that body, in the human brain. Two roots of the vagus have been spoken of, but it is difficult to demonstrate them; nor, although the two portions of the glosso-pharyngeal may be seen in the foramen lacerum posterius, where that nerve presents the ganglion discovered by Müller, has Mr. Grainger been able to trace them as separate roots into the medulla oblongata. Yet, as he observes, the probabilities are greatly in favour of the opinion that two roots do exist.

H. Mr. Grainger next dwells on the comparative anatomy of the cord. But we are unable to follow him.

I. On the whole, the investigations of Mr. Granger go towards the confirmation of the opinion which has latterly been all but universal;—that, the spinal cord is not merely an appendage of the brain. Its two substances are in all probability endowed with distinct powers, and, probably also, the grey matter in the cord has its peculiar powers. Mr. Grainger surmises, that—

> "In fact, it constitutes, with the nervous fibres attached to it, the true spinal cord, the existence of which, as a structure independent of the brain, was first declared by Dr. M. Hall.
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> The second portion of the spinal cord consists of the white fibres, all of which, after a most complicated disposition, seem to extend to the convolutions of the cerebrum and the layers of the cerebellum; it may, therefore, with propriety be called the cerebral part of the cord.
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> The result of dissection further shows, than in the skin and all other sensitive surfaces to which the so called sentient nerves are distributed, there are, in reality, two orders of fibres essentially distinct from each other; one set terminating in the grey substance of the spinal cord, and the other in the white or cerebral fibres. In the same manner, with respect to the nerves distributed to the muscles, it is proved that each contains one class of fibres running into the grey matter of the cord, and another order ending in its cerebral portion.*
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> Thus, in the compound nerves of the body, there are in reality four instead of two different classes of fibres; and, when the physiology of these parts is considered, it will be made apparent, that these several fibres transmit different impressions: that of those going to the brain, the fibres derived from the sentient nerves, transmit impressions which excite sensation, and those belonging to the motor nerves, volition; that of the fibres attached to the grey matter of the cord, those derived from the sentient nerves, transmit impressions made on the skin to the true spinal cord, the peculiar power of which they excite; whilst those derived from the motor nerves, transmit to the muscles the effects of the power thus excited. Of these four classes, I conclude, that those attached to the grey matter are the incident and reflex nerves of Dr. Hall; and that they, together with that matter, constitute the true spinal or excito-motory system." 47.

It is difficult to perceive how Mr. Grainger has proved, or proves—that "the result of dissection further *shews*, that in the skin and all other sensitive surfaces to which the so-called sentient nerves are distributed, there are in reality, two orders of fibres, essentially distinct from each other; one set terminating in the grey substance of the spinal cord, and the other in the white or cerebral fibres." Nor is it easy to understand how he reconciles this affirmation in his text with the contrary negation in his note;—that, "these different orders of fibres cannot be demonstrated in the nervous cords going to the skin and to the muscles."

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* "It is no argument against this statement, that these different orders of fibres cannot be demonstrated in the nervous cords going to the skin and the muscles. The same kind of objection applies to the existence of the sentient and motor fibrils in the compound nerves, which cannot be distinguished mechanically from each other; and yet no one doubts the justice of Sir. C. Bell's conclusion as to their independence both in an anatomical and physiological point of view."

The comparison between these fibres, which can and cannot be observed, and the two roots of the spinal nerves is imposing, but, perhaps, not perfectly fair. Those roots are obvious to the naked eye, can be handled, dissected, separately cut in living animals. Their palpable character prevents anatomical dispute—their positive separation has facilitated physiological experiment—and the direct results of the one and of the other have established the undeniable fact of the different properties of the two roots.

But the anatomical basis of the "reflex" theory, however plausible, however pretty, and however *probable*, is by no means so obvious nor so satisfactory. The different fibres, which it is necessary to distinguish, have been *seen*, it is true, by Mr. Grainger, and are admitted by Professor Bischoff; but they were seen by the one with trouble, and have been admitted by the other with difficulty, nor have the mass of anatomists yet examined or assented to the grounds of belief in either. To compare such fibres to the two roots of the spinal nerves is to compare a small quantity with a great, an uncertainty with a demonstration, and such comparison cannot, in an exact science like anatomy, be unchallenged.

So far as we can see our way, it appears to us that these investigations of Mr. Grainger's have great merit, and that they demand on the part of anatomists much attention, and an impartial scrutiny. Yet it may be said that, so far as physical discovery is concerned, he has *seen* what others have *said* they saw, or have surmised; and it is rather in the elaborate character of his inferences, and in his application of his facts to the support of the "reflex" theory, than in new views or in new facts, that he differs from his predecessors or contemporaries. But to revert to the text of that gentleman.

Having decided that there exist, besides the nerves of sensation and volition, two other classes which are anatomically and physiologically distinct, it becomes, of course, necessary for him to distinguish these different orders by separate names.

> "Dr. M. Hall has proposed to call the fibres, which pass from the skin to the true spinal cord, the *incident nerves*, and those, which proceed from the true spinal cord to the muscles, the *reflex nerves*. These terms are very expressive of the powers, which these filaments probably possess of transmitting impressions in the directions indicated by their names; and, therefore, may be with propriety adopted in treatises in which the excito-motory phenomena are considered. But, as at the present time, doubts still exist with respect to the exact mechanism by which the reflex action of the cord is effected, it is advisable to select, for general purposes, terms merely expressive of the facts which are established by the evidence of anatomy, and which do not involve any hypothetical doctrine. In this manner the nerves of the cerebro-spinal axis may be divided, as, indeed, Dr. Hall has proposed, into the true cerebral, comprising the true sentient and the true volition fibres; and the true spinal, consisting of those fibres derived from the anterior and posterior roots which enter the grey matter of the cord.
>
> With these facts before us, the dispute, respecting the existence of what are called the cerebral nerves, is readily determined. It is well known, that whilst

such nerves are admitted by some physiologists, the majority of writers in the present day contend, that all the nerves contained within the cranium, are spinal nerves. Neither of these opinions is correct; for each of the cranial nerves is, in reality, composed like those attached to the vertebral part of the spinal cord, of a true spinal and a true cerebral portion; the former being attached to the prolongation of the grey matter of the cord, and the latter, to the sensiferous and volition fibres, which ascend to the grey matter of the cerebral convolutions. The only nerve which, perhaps, consists of cerebral fibrils alone, is the olfactory." 48.

Mr. Grainger continues:—

"It is necessary, in conclusion, to point out a very important principle, in accordance with which the origin of the incident and reflex nerves is governed. From the office which has been assigned to the former, of transmitting the impression of physical agents to the latter, it is evident that there must be, as Professor Muller has remarked, a ready means of communication between them. In obedience to this necessity, it is found that the central extremities of the incident nerves do, in reality, very closely approach the central extremities of those reflex nerves, with the function of which they are associated. This principal is very evident in all the spinal nerves, the incident and reflex fibres of which are attached to corresponding segments of the grey substance; and the same disposition is evinced in the incident and reflex fibres of the several cranial nerves, when they are traced with sufficient minuteness. 48

Mr. Grainger alludes to Mr. Mayo's remark, that—nerves of motion take their rise from the same region or segment with those sentient nerves which transmit the impressions by which their action is usually regulated. This principle, Mr. Grainger observes, does not apply to the *sentient*, but to the *incident* nerves; for the true sensiferous or cerebral fibres are not thus attached with the volition fibres of the motor nerve, to corresponding masses of the grey matter; on the contrary, the sensiferous fibres of the posterior roots, although for the convenience of arrangement they approach the volition fibres of the anterior roots in the spinal cord, yet they continue upwards till they reach the various convolutions of the brain. Our author adds that —the explanation now offered of this fact affords a satisfactory elucidation of a principle which, otherwise, could not be comprehended; for, whatever assertions there may be to the contrary, it is certain that there is no necessary relation either between muscular contractility in general and sensibility, or between this latter property and the contraction of that portion of the muscular system, which is under the influence of volition.

IV. PHYSIOLOGY OF THE SPINAL CORD.

This constitutes a long chapter—one of 66 pages. Our space is too limited to permit us to give an accurate or an ample account of the whole.

The object of Mr. Grainger is to investigate, more minutely than he has already done, the functions of the various portions of the cord. But this has formed lately so much a subject of inquiry, and has been noticed in such various ways in this Journal, that we need only select particular passages and observations.

A. *Of the Vertebral Portion of the Spinal Cord.* We will not go over ground already trod. It is enough to observe, that there seems now good reason to believe that the cord *conducts* sensation and volition, and *originates* the reflex action, or rather forms with the incident and reflex nervous fibres the apparatus of that action. All this has been not only rendered probable, but demonstrably proved in all its parts, by reasoning and by experiment. Unfortunately, as the nervous fibres of the reflex action are not distinguishable from the nervous fibres of sensation and volition, it is impossible to divide one without the other, and so perform an experimentum crucis. The next best substitute for such an experiment is to cut across the entire cord. We thus deprive the lower portion of the power of conduction to and from the brain; but we leave the reflex apparatus. It was by an experiment of this sort that the reflex theory was first set upon its legs.

Mr. Grainger relates several additional experiments, all confirming the original one, but not necessary for its perfect comprehension. But the following observations are of a more interesting character.

> "Dr. Hall has pointed out the extraordinary susceptibility of the verge of the anus, in producing the reflex action of the cord; and I have myself remarked the same thing in every species of animal—in mammalia,—in amphibia, and in insects. In connexion with this fact it is important to describe a phenomenon, which was noticed by Professor Bischoff in the green frog (*Rana arborea*) so common in many parts of Germany. Upon irritating the cloaca in one of these animals which had been decapitated, the most violent motions were excited in the hind legs, and *repeated attemps were made by these limbs to remove the instrument*, with which the cloaca was touched. This fact I have since repeatedly seen, in the green and common frog, both when the head was removed* and when the spinal cord was divided in the back; the same thing may readily be noticed in the common fly and other insects, after decapitation. I have also observed that if, after having cut off the head in frogs, fire is applied to the fore part of the trunk, violent motions to remove the source of excitement are made. It is impossible not to be struck with the analogy of this curious phenomenon, occurring, it must be remembered, when it can be proved that sensation and volition were destroyed, and the experiments of Magendia; in which, after the removal of the cerebrum and cerebellum, the animal employed its feet to remove a source of irritation from the face, caused either by plucking a hair of the whisker, or by dropping concentrated acid on the nose."† 60.

Mr. Grainger proceeds to show, that, as recent observations have established the analogy between the nervous system of the articulata and the cerebro-spinal system of the vertebrata, the experiments on the excito-motory actions in the former acquire an increased interest. Those experiments do not require specification, the general results being sufficient for our readers. Those results are briefly summed up by Mr. Grainger. They are found, when carefully considered, to correspond in character with those obtained by vivisections practised on the vertebrata; the only difference relating to the extent of the reflex action. In both cases, there is the same absence of all spontaneous motion, in the parts cut off from their connexion with the brain; the same convulsive motions arising from time to time, without any external irritation; the same kind of combined motion, when the surface is stimulated; and the same modifications in the intensity of the excited actions, according to the part upon which the impression is made.

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* "It is necessary in batrachian reptiles to be very careful in removing the head, that the section is made sufficiently low, or otherwise a part of the brain remains attached to the body."

† "The motions above noticed are best seen when the cord is divided high up towards the neck."

B. *Of the Cranial Portions of the Spinal Cord, or Medulla Oblongata.*—The functions of the medulla oblongata have been and are a subject of dispute and difficulty. The cranial portion of the cord comprises not only this, but the crura cerebri, the optic tubercles, and the fibrous, perhaps, even, the grey matter of the optic thalami.

The medulla oblongata is clearly proved to be indispensable for the performance of respiration, and of two important acts, sucking and deglutition. It has been supposed to be the seat of sensation and volition.

Mr. Grainger rightly observes, that the investigation of the endowments of the medulla oblongata may be prosecuted with the greatest advantage, by considering, first, the effects of vivisections performed on the brain; secondly, the true nature of the phenomena displayed by anencephalous infants; thirdly, the evidence afforded by pathology.

We cannot enter into an investigation so elaborate. We may content ourselves with observing that Mr. Grainger decides against the medulla oblongata being the seat of sensation and volition, which he thinks, with others, reside in the cerebral lobes. He shews that the medulla is concerned, in a very important degree, in the production of excitomotory phenomena of great consequence.

Mr. Grainger's remarks on some of the recent vivisections and on Magendie, the arch-vivisector of modern times, accord so perfectly with the sentiments of the most philosophical anatomists of the day, and are so calculated to make an useful impression on the minds of young anatomists, that we cannot refrain from extracting them. Speaking of Magendie, he says.—

> "I approach his labours connected with the nervous system with much regret; because I feel myself compelled to state, that, so far from admitting that they tend to remove the veil which obscures the operations of the brain, I conceive that, viewed in the aggregate, they have constituted the great barrier to the progress of modern physiology. In stating this opinion, I only give expression to a sentiment entertained by some of the most profound physiologists of Europe; who perceive that the doctrine, advocated by systematic writers, and which have mainly origtnated in the researches of M. Magendie are totally insufficient to explain the phenomena of muscular action, and are, in many respects, contradictory of each other. It is acknowledged by all parties, that the results of viviscetions, particularly those which relate to the mental operations of animals, in which it is so difficult justly to interpret the affects produced on their feelings, must be received with the greatest caution. There are, in fact, difficulties inseparable from such investigations, in whatever manner they may be conducted, but these difficulties are immeasureably increased when experiments are performed on living animals, not to test the correctness of opinions founded on an antecedent process of reasoning, but to open, as it were, the chapter of accidents, and to endeavour, by a lucky chance, to discover something new. In this respect, the method pursued by M. Magendie is most objectionable; as it is apparent that his mutilations were practised with no definite object, but with the design of wresting, from their results, some conclusions respecting the most mysterious phenomena of the animal frame. But nature is not thus to be forced

into a disclosure of her hidden truths; success, when it is to be obtained by experimental inquiry, which when judicially applied is a very important means of discovery, can only be commanded by making these manual operations subservient to comprehensive views of the laws, which regulate the structure and functions of organized bodies. Such being the unphilosophic spirit in which these experiments were conducted, we are justified in viewing with doubt the conclusions they are supposed to warrant; especially when it is recollected, that, in the same work in which they are related, doubts are expressed whether the olfactory is the nerve of smell, the optic the nerve of vision, or the auditory the nerve of hearing." 68.

It is doubtful whether, as a general truth, experiments ought to be solely instituted with the view of supporting or negativing certain propositions. This is one mode and a very excellent, indeed the best , one, for advancing truth. But experiments of a less definite character have often been productive of great results, for discovery does not run in the groove of human calculation or foresight.

In the particular instance, to which Mr. Grainger's observations apply, they are probably quite unobjectionable. Experimental vivisections are so cruel, so opposed to the best feelings of our nature, that they should ever be undertaken with reluctance, and prosecuted in the most sparing manner. If a chemist consumes uselessly some bottels full of gas, the only mischief is a little loss of time and matérial. But if a dozen dogs or pigeons are physiologically tortured to death, with the vague expectation of some curious fact turning up during the process, there is a great wrong done to humanity and probably no great good to science. In the case of M. Magendie both results have taken place. His experiments, not being philosophically instituted or directed, have tended to confuse the plainest truths, and to establish the most extravagant fancies.

Mr. Grainger gives an abstract of the principal experiment of Flourens, on the consequences of removing the cerebral lobes. He shews that that experiments goes far in supporting the excito-motory hypothesis; the phenomena exhibited by anencephalous fœtuses he analysis and explains upon the same hypothesis; and, after detailing some experiments and reasoning and some facts, he concludes that:—they establish the position that the action of the lips in sucking, and the movements of respiration can, and do, take place in anencephalous fœtuses, in animals deprived, experimentally, of their brain, and in *all* new-born animals, without the agency of consciousness, sensation and volition.

The phenomena of *deglutition*, and of *respiration*, are considered in reference to the same hypothesis, and shewn to accord with, and support it. With respect to *respiration*, our readers may be aware that Dr. Hall considers the vagus nerve as the excitor of the respiration, in consequence of transmitting the impression made by the carbonic acid, on the surface of the air cells to the medulla oblongata, by the power of which the phrenic nerve is excited, and the diaphragm made to contract. But, after detailing some experiments in imitation and in continuation of Brachet's, Mr. Grainger observes with respect to them:—

"The results of these experiments are partly corroborative of those performed by M. Brachet; but it is certain that in the first there *was some uneasiness* produced; and yet, if the pneumo-gastric be the only conductor of impressions from the lungs to the brain and to the spinal cord, causing in the former organ sensation, as when the breath is held, and in the latter, the action of the diaphragm, it is certain that *no pain* ought to have been excited in the first experiment. But, besides this difficulty, there are others which have not been explained. Dr. Hall conceives that after the division of the vagus, an animal breathes by means of its volition; and, as there is no doubt that the phrenic, like all the motor nerves of the spine, has two roots, one spinal and one cerebral, there is certainly nothing to prevent the act of the will on the diaphragm. If, however it is by the will that breathing is continued in these circumstances, it is certain that there must be some previous sensation excited, that the animal must experience some painful impression, the 'besoin de respirer,' which according to M. Brachet and Dr. Hall is destroyed by the division of the vagus.* These circumstances induce me to conclude, that painful impression *are* transmitted to the cerebrum after the section of the pneumo-gastric; and, it is probable that this takes place through the medium of those branches of the great sympathetic, which are distributed to the lungs. It is well known, that although impressions made on parts of the body, such as the mucous surface of the intestine, which receive no other branches than those of the sympathetic, are not under ordinary circumstances, carried to the brain; yet, if the impressions are sufficiently intense they are so transmitted, and pain is the result. It is thus possible to conceive that volition may be excited, and that it is in this manner the action of the diaphragm is maintained after the section of the vagus. The only objection to this supposition is, that birds, and even dogs, and other animals, have been known to survive the division of these nerves several days; during which lengthened period, it is difficult to admit the possibility of voluntary action being continued, so incessantly, as occurs in respiration.† I mention all these circumstances, not because I doubt the correctness of Dr. Hall's theory; but to show that this is a subject requiring further investigation." 90.

We fancy that there are few points connected with the excito-motory doctrines, which do not require careful consideration and prolonged inquiry. What we are about to state will tend we think to support this suspicion.

In considering the evidence afforded by *pathology*, Mr. Grainger relates a case communicated to him by his colleague Mr. Barron, and makes some observations on it which he subsequently expands and illustrates.

Case. A girl, about fifteen years of age, who was a patient of Mr. Crosse at the Norfolk and Norwich hospital a few years since, was affected with angular curvature of the spine, producing insensibility and paralysis of the lower extremities. On tickling *the soles of her feet*, which as an experiment was often done the legs were immediately slightly retracted, although the patient said she felt nothing; it was further remarked, that, on touching the *other parts of the feet or the legs* in the same manner, no effect was produced.

"The results," says Mr. Grainger, "noticed in these cases are full of interest. They prove, first, *that in parts of the body indisputably deprived of all feeling and power of voluntary motion, contractions may be excited in the so-called voluntary muscles, by impressions made on the skin;* secondly, *that this capability of exciting*

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* "The above statement is not at all opposed to the opinion advanced in another part of this Treatise, that sensation is not a necessary antecedent to volition."

† "M. Brachet attributes the actions of the respiratory muscles, which continue after the division of the pneumo-gastric nerve, to custom or habit; but this is an untenable position; it is certain that no muscle ever contracts without some definite cause of excitement."

muscular contraction, is not equally possessed by all parts of the external surface of the body; but that the sole of the foot, which in walking comes in contact with the ground, is that precise part in which the action is excited in the most energetic manner." 95.

We pass over some pages to Mr. Grainger's inquiry into the causes of the *motions of the limbs.*

That these are voluntary every body knows. Dr. Hall thinks that to the excito-motory system is owing their *tone.* But Mr. Grainger advances a much more bold, if not a startling, proposition. After criticising some doctrines and adverting to some experiments, he proceeds to remark:—

"These are striking facts, and indicate the existence of a power, by the operation of which the motions of progression may be excited, when volition is destroyed. So deeply impressed is the mind, however, with the idea of our motions in walking being altogether voluntary, that it is almost impossible to conceive how the mere circumstances of the foot coming in contact with the ground can cause the muscles of the lower extremities to produce all the complicated actions, which are necessary to take another step; and yet it is certain that these motions are regularly effected, when the mind is entirely abstracted from all thoughts of the actions that are required; so that at these times, which are so extremely frequent, the movements of progression become automatic. It is often said, indeed, that under such circumstances, the muscles contract from habit; but such a vague explanation becomes quite insufficient, when it is recollected how invariably every natural phenomenon is preceded by a definite cause." 115.

It must be admitted that a position of such a description as the preceding requires some examination. Mr. Grainger anticipates several objections to it. It is necessary for him to call in the aid of volition, or an antagonist to the excito-motory actions. It is certain, he says, that volition not only possessess the power of exciting what are called the voluntary, muscles, but that it can also so control them, as to stop the effect of the impressions transmitted by the incident nerves. The case of the diaphragm is one in point.

"If the excito-motory phenomena be carefully investigated, it becomes evident that this controlling influence of the will is regulated; according to the wants of the economy, in obedience to certain laws. Thus those motions, which are of a preservative character, such as the closure of the eyelids, on the cornea or cilia being touched, or the protection of the larynx during deglutition, are altogether removed from the influence of volition; whilst, on the contrary, the muscles, which are necessary to locomotion, are, in the normal state of the system, in every animal possessing a brain, placed under the full and perfect control of the will. But, if the incident nerves are stimulated in excess, as in burns or tetanus, then no cheek, which the individual can exert, is able to prevent the most violent muscular contraction. Between these two extremes there are many shades; in every instance, however, the power of the wlll is always determined by the importance of the function, with which the motions are connected, and the intensity of the stimulus.

Lastly, it may be remarked, that, if such a modification of volition really exists, it is certain there must be conductors for this special purpose, distinct from all the other parts of the apparatus of sensation and volition. Without pretending to designate any particular structure, as being the organ of transmission, it may yet be stated that it is, doubtless, confined to the cerebro-spinal axis; in the component parts of which—the brain and spinal cord—there are various fibrous structures, such as the anterior column of the latter, the uses of which still remains to be discovered." 116.

We have discussed four of the seven chapters of which Mr. Grainger's work is composed. When we commenced the examination of the book, we did not think that it would have occupied us long, or that so much would have become the subject of transfer to our pages. Not only, however, has there been much notice, but more remains for notice still. We have arrived at a natural break in the subject, and we avail ourselves of it. In our next number we shall return to the excito-motory system—a system or hypothesis which must attract for some to come great attention, and which directly or indirectly will certainly revolutionize our ideas of the operations of the cerebrum and spinal cord.

We have left ourselves no space to speak of the papers in the Guy's Hospital Reports, nor of the new edition of Quain's Descriptive Anatomy, nor of Baly's Translation of Müller's Physiology. Yet they are all good in their respective ways. The papers in the Guy's Hospital Reports should be *read*—the other works should be *studied*, and to be studied they must have been *bought*. To the buying public, the students, we recommend them. Müller's Physiology is a first-rate production, and a general acquaintance with it (an acquaintance now made easy by the translation of Mr. Baly) will philosophize in a high degree the anatomists of this country. Mr. Baly deserves their thanks, and will, we are confident, meet with their encouragement.

SURGICAL OBSERVATIONS ON TUMORS WITH CASES AND OPERATIONS. By *John C. Warren,* W.D. &c. &c. &c. Boston, 1387.

[Continued from No. 54. p. 344.]

We have brought our account of Dr. Warren's work to the termination of the section on Osteo-sarcoma. The seventh section, which succeeds, treats of tumors of the glands, to which we shall proceed without further introduction.

VII. TUMORS OF THE GLANDS.

Dr. Warren adopts a three-fold arrangement of these tumors, dividing them into, *first*, tumors of lymphatic glands: *secondly*, tumors of secreting glands: *thirdly*, tumors of the mucous glands. He is inclined to add, as a *fourth* species, tumors of oleaginous and sebaceous glands.

1. Tumors of Lymphatic Glands.

These he considers under the heads of scrofulous, scirrhous, and fungoid.

A. *Scrofulous Glandular Tumors.*—We need say nothing on their characters nor on their history. The only inducement we have for alluding to them, is the opportunity afforded us of noticing the following remarks of Dr. Warren on the use of iodine.

> "A medicine," he says, "has been introduced of late years, which has acquired much reputation in this and other forms of scrofulous disease. It is not surprising that physicians should with avidity take up any remedy which may promise to relieve so common and inveterate a disease as scrofula; especially one analogous in its character to those of which experience has most approved. I must say, that after many years trial of the preparations of iodine, in various forms of scrofulous affection, I have rarely seen any very distinct advantages from it. I have employed it in large and small doses, in hospital practice and private, externally and internally. Nor in truth ought we to allow ourselves to expect the results which have been promised. Scrofula is a constitutional, and commonly an hereditary disease. If there be any remedy for such a disease, it must be found in agents which influence the intimate structure of the body more generally and intimately than iodine, or any medicinal substance can do. Such agents are food; a healthy state of the excretory apparatus; a pure atmosphere; and an exercise of the muscular system, suited to the constitution of the patient. I do not wish to dissuade from the use of so convenient a medicine as iodine; but would advise it to be employed in such a way as not to disturb the functions which remain healthy; and that it never should be used to the exclusion of those restorative means, to which reason and experience have given their sanction." 164.

We quite coincide with Dr. Warren in these sentiments. It is unphilosophical and inconsistent with most of what we know in medicine to imagine that any single remedy can possess the powers which have been attributed to iodine, in a constitutional complaint like scrofula. Valuable as many of the new medicines have proved, there have not been wanting hundreds of practitioners who have egregiously over-rated and sadly misapplied them. Because, for example, some forms of scrofula have been benefited by iodine, this has been employed in all cases of scrofula, to the neglect of those old and approved remedial measures, stamped as beneficial by established usage and long-continued general assent.

Some persons would seem to have taken leave of their wits in the treatment of a good many disorders. It is enough for them to get hold of a new remedy, and wether it be iodine or quinine, prussic acid or creosote, it is given in all cases, at all times, and under all circumstances. Such prescribers fancy they possess a special dispensing power in the exercise of reason, judgment, or discrimination. They are not trammelled by any ordinary rules, and their principles, if principles they have, defy vulgar comprehension.

It may be very true, that, because a remedy is new, it is therefore suitable for every body and for every complaint, and it may be true also, that we may prescribe it without troubling ourselves to investigate the disorder, and to judge of the applicability of the drug to the symptoms. We say that this new light may be a good one; but we are so old-fashioned as not yet to read by it. We cannot help thinking, that, after all, a little discrimination is no bad thing, and that our exhibition of new remedies must be guided by principles very similar to those which regulate our administration of old ones. We have not yet found that bark is at once a tonic and a debilitant, a sedative and a stimulant, and is is hardly fair to expect that iodine or creosote should be so. It would be desirable to have an universal medicine, but the belief in one *was* rather a past folly, not a present one. Shall the spirit of the imposters and the dupes of the age of alchemy descend on the doctors of 1837?

The rational mode of determining the properties of any drug consists in first ascertaining what they are in conditions of the body as little removed from health as possible, and then what is their special influence on morbid actions. This being done, we have something like principle to guide us in our further employment of it.

We may ascertain in this manner the positive value of a substance as a remedial agent. But it is necessary to be acquainted with its relative value, that which it possesses in comparison with other remedies. To determine this, an acquaintance with the powers of such other remedies is requisite. Unfortunately many of those, who laud new medicines, are either ignorant of the effects of established ones, or, led away by enthusiasm or by something worse, they most unfairly depreciate them. The consequence is, that new medicines are praised in the most fulsome style for doing that, which medicines in every-day use can do much better. The be-puffed drug has a few months' run, disappoints every body, and is then thrown aside altogether, to make way, possibly for some other drug equally be-puffed, and to be equally forgotten.

It is really lamentable to see the greediness with which the medical public listens to the Katerfeltos, who are daily announcing fresh wonderful nostrums. Disappointment appears to beget, not murder, hope, and the utter failure of one crop of expectations would seem to be the best manure for another. Will wild enthusiasts or crafty rogues *always* take the best gauge of the sense of the profession?

We return to Dr. Warren, and to the sober lessons of experience.

B. *Non-malignant Scirrhus of the Lymphatic Glands.*—We have admitted, in the previous article, that the diagnosis of true scirrhus from tumors somewhat removed from scirrhus in malignity, is, in their early stages and occasionally in all stages, very difficult. We need not rip up the whole question again, but we may observe that, a diagnosis being grounded on a consideration of many circumstances, a wide acquaintance with the laws of malignant and of non-malignant tumors is required.

Scrofulous glandular tumors, for example, usually occur at a certain age, in certain states of body, and run a certain course. A knowledge of these circumstances renders their diagnosis pretty easy. Scirrhous tumors are marked by characters and accompanied with general or local conditions which facilitate, more or less, their discrimination. But other glandular tumors may present themselves, with features far from marked, under conditions not at all distinctive, and to the embarrassment of the inexperienced surgeon. It is probable that such tumors are not of one, but of many kinds, and that their condition is not a fixed but a transition state

Tumors, for example, form in the neck, resist all treatment for a length of time, and, finally, either subside spontaneously, or under the influence of some medicine. In another case, tumors of apparently a similar description never disappear at all. And, in another, they ultimately exhibit genuine malignant characters. Dr. Warren remarks:—

> "The non-malignant scirrhous gland is of a globular form; quite hard; not discoloured nor painful. It is distinguished from the simple scrofulous tumour by its permanent hardness and steady increase of size. Sometimes it is insulated; more frequently double; and not rarely clustered, as in this specimen taken from the axilla, in which you see from fifteen to twenty tumours, suspended from a pedicle of lymphatic vessels. This was dissected from the axilla of a negro boy about eighteen years old. It involved the axillary vein and some of the axillary nerves. The operation was safely terminated, and the patient recovered from it.
>
> When dissected out, this kind of tumour is found to be covered with one or more coats, formed by a condensation of the surrounding cellular texture, and constituting a cyst. On cutting it open, a white substance is seen near its central part, from which issue rays of the same matter to its exterior. Between these rays there is a pale reddish substance, something like the healthy appearance of the lymphatic glands.
>
> The application of the term *scirrhus* to a non malignant tumour, is objectionable; but there does not appear to be another word to express the hardened lymphatic gland covered by a cyst, and forming a permanent tumour." 165.

What is the surgeon to do with such tumors? The answer appears to be obvious. If the tumors resist all internal remedies and appropriate management, if it increases in size or alters for the worse in character, and if it occasions local or general disturbance, it should, cæteris faventibus, be extripated by the knife.

c. *Malignant Tumors of the Lymphatic Glands.* Dr. Warren divides these into the scirrhous and the fungoid. He observes, and we concur with him, that "the disposition of lymphatic glands to assume a malignant affection was not so generally abmitted some years back, as it is at present. The secreting glands were supposed to be more inclined to come into this state, than the lymphatic. It is however certain that the latter are often the seat of these derangements, without a preceding disorder of the other. The scrofulous habit, which disposes to the simple lymphatic enlargements, is also more frequently the seat of the malignant tumor. The latter, like the other, is found in those parts where the glands are numerous."

If we may trust our own observations, we should say that the scrofulous habit is prone to fungoid but not to scirrhous degenerations. It has long been remarked, that fungoid disease of the eye occurs most frequently in children of the strumous habit. We have noticed, in reference to malignant diseases of the stomach, that if the complexion was fair and the habit strumous, the disease was *generally* fungoid, while scirrhus accompanied a dark complexion and a bilious temperament. Of course these observations must not be taken for more than they are worth; they are rather approximations to the truth than truth itself.

Dr. Warren's description of the characters and march of scirrhus of the lymphatic glands is concise. It begins, he says, with a simple glandular induration, not at first attended with soreness or pain, but exhibiting much hardness in an early stage. After some months, a darting paid is perceived; other glands, in the vicinity, partake of the disease; the patient begins to lose flesh and strength; the glands between the tumor and thoracic duct are enlarged; the pain becomes great, and particularly affects the back, when the tumor is seated in the groin. Watery effusions occur in the thorax, abdomen, and in the extremities; and the patient wastes away under a general disease of the lymphatic apparatus. Not unfrequently the original tumor ulcerates, and produces a disgusting sore attended with great pain. Descriptions of this kind contain no positive diagnostic marks, nor can we wonder at it; there are none.

We pass over some cases, which contains nothing worthy of particular notice, and pause at one distinguished for a remarkable operation. Our readers are aware that, on many occasions, we have earnestly discountenanced severe operations of doubtful utility. We think it is impossible to dwell too often on this subject. Scarce a week elapses without some fresh victim to the Moloch of a morbid thirst for notoriety. This system must be put down. The blood of mutilated and of murdered patients cries loud for retribution.

In submitting the details of the following case to our readers, we must not be understood as reflecting in any degree on Dr. Warren. The case occurred ten years ago, when the nature of the malignant alterations was not so well understood as it is now, and when operations were more freely performed for their removal. It is only within these very few years that great caution has been exercised in resorting to the knife, and that proper principles have regulated its employments. But we will introduce the case.

A farmer, aged 60, of weak constitution, applied to Dr. Warren with a scirrhous glandular tumor in the neck. It had existed for more than a year, and occupied the whole of the left side of the neck, from the ear to the clavicle, and from the trachea to the spine. The mastoid muscle, all the arteries, veins and nerves of the neck, were included in its substance. A process extended under the jaw into the pharynx, and filled the left half of this cavity with a red tumor, and greatly impeded deglutition. The external tumor was very hard, knotted, not discoloured and not tender. The growth had been rapid. The patient's health was failing, and his suffering, from the act of swallowing, quite distressing.

The patient being desirous of an operation, Dr. Warren resolved to be guided by a consultation of the surgeons of the hospital. The result of that consultation was, that the patient should be made acquainted with the danger and uncertainty of a surgical operation, and that, if after a view of these, he desired it to be done, it was right to undertake it. The patient, after a consultation with his friends, determined to go through it, and it was performed at the hospital in the following manner.

"An incision was made from behind the ear to the anterior third of the clavicle; the surface of the tumour uncovered, the mastoid muscle was sought for, but was partly absorbed, and partly buried in the tumour. After clearing the tumour from the ear, the jaw, larynx, and dorsal muscles, an attempt was made to get under the tumour, just above the clavicle; and now the difficulties of the operation appeared. The carotid artery, internal jugular vein, and par-vagum nerve, were covered by and connected with processes of the tumour, in such a manner as to render it difficult to distinguish them. This was at last accomplished by breaking down the lower part of the tumour, till these parts were made out. The vein was obliterated, the artery diminished in size, but pervious. A ligature was applied on the latter, and the par-vagum nerve was separated as carefully as possible, though not wholly cleared of the tumour. The separation from the nerves at the upper part of the neck, was next attempted successfully, with the exception of the sublingual, which so barred access to the pharyngeal part of the tumour, that I determined to divide it; and then followed the disease into the pharynx, as far as could be done without cutting open its cavity; the operation was finished by breaking down such parts of the tumour as could not be separated from the nerves. There was but little hæmorrhage, as is common in large, and hard tumours. The parts were brought together, and the patient removed to his bed. He was faint twice, but otherwise supported the operation well." 176.

On the following days, he had great difficulty in swallowing. At the end of a week, this subsided; the wound united by the first intention, excepting the inferior part, which was kept open, and in twenty-two days he left the hospital, and went to his home in the country. A few days before the patient left the hospital, Dr. Warren applied the actual cautery to a portion of the tumor adhering to the parietes of the pharynx. He would have repeated it, but consent was refused. After the lapse of some months, the throat began to ulcerate, and this ulceration gradually extending, produced a difficulty in swallowing, and, wearing him down, proved fatal in about a year from the operation.

It appears to us that this case is a very good example of what, in the present day, we should not do. An aged person has a tumor possessed of true malignant characters, of such a size and in such a situation, that it is unreasonable to anticipate the possibility of removing it completely by an operation. What are we to do? Are we to hold a consultation, represent the case to the patient, and allow him to decide upon the treatment? We say—No. It is very well to say that the case is fairly represented to the patient. The fact is, that it never is nor ever can be represented perfectly fairly. The colouring of the picture is always too light. And, supposing we do represent the case fairly, are we doing justice to the public. It is interested as well as the individual; and, by viewing the case as merely one of personal feeling, we are losing sight of our duty to the community. The proper question to put is this—Is the operation likely to serve the interests of science and of humanity, as well as to flatter the *fallacious* hopes of a timid man? If we feel morally certain that the operation will fail, we should at once discountenance it. The patient is not, cannot be, a proper judge, and the surgeon, who sneaks out of his responsibility under the shadow of a consultation or of a patient's wishes, is not acting the part of a man of science. If the best reasoning in our power tells us that *it is not right* to operate, an operation is unjustifiable.

Dr. Warren proceeds to the examination of fungoid disease of the lymphatic glands. His account of it is not voluminous.

"Fungoides of the lymphatic glands is an insidious, deceitful tumours. When first discovered in the groin, thigh, or neck, it is small; its consistence soft; its connexions confused and not precisely limited. Without colour at first, it sometimes ultimately becomes of a livid red, and when a considerable size, that for example of a lemon, it has a livid red colour; so that it much resembles an abscess, and, if you had not known the history, you would say it contained a fluid. You puncture it, nothing is discharged but a bloody water or blood. You extirpate it, thoroughly as you think, after some months it appears again in the cicatrix. Do what you will, it proceeds onwards, though with extreme slowness and little pain, and in a course of years gradually affects the lymphatic glands and great organs in the cavities." 187.

The number of lymphatic glands which become disordered, both internal and external, is very great in some cases. They may amount to hundreds. The external glands, which are secondarily affected, are not ordinarily discoloured. It is usually the primary disease, which becomes of a livid red colour. The duration also varies: some of these cases going through their course much more rapidly than others. This is a fact which has struck all observers. It seems, at first sight, strange that a morbid process like the fungoid should now and then remain in abeyance for a lengthened period. But our surprize must lessen when we reflect that the process itself is probably no more than a modification of healthy action, and that we really know very little about it.

Dr. Warren, if pressed for discriminative characters of the fungoid disease of the lymphatic glands, would say—"the *softness* of the tumor, its tendency to *discolouration*, its *early* influence on the constitution, and the *extent* to which it affects the lymphatic system."

Dr. Warren relates several cases of this disease. They present no very peculiar features, and we pass them by.

II. Tumors of the Secreting Glands.

The various secreting glands are the seat of the various morbid growths and morbid alterations of structure, in different degrees. Thus, scirrhus, frequent in the mamma, is comparatively rare in the testis: and fungus hæmatodes, common in the latter, is seldom seen in the former. Dr. Warren first treats of:—

a. *Tumors of the Breast.*

He alludes to the writings of Mr. Travers and of Sir A. Cooper, on this subject, in terms of merited approbation. Sir Astley has described the non-malignant, but reserved to a future opportunity the account of the malignant tumors of the mamma. The non-malignant tumors are enumerated by the worthy Baronet thus—1. The hydatid disease of the breast. 2. The chronic mammary tumor. 3. The cartilaginous and osseous tumor. 4. The adipose tumor. 5. The large pendulous breast. 6. The scrofulous swelling. 7. The irritable tumor. Dr. Warren makes a few remarks on each, and presents some cases. The following are all that deserve extraction.

Incipient Hydatidal Tumor of the breast. This case is worth perusing. Miss———, in good health, accidentally discovered a small induration in the left breast, in May 1836. It increased considerably from that time to August, when Dr. Warren saw it. The breast was small and flat; and at the first examination scarcely seemed altered from the natural state, but, on comparing it with the other, was found to be decidedly hardened and somewhat enlarged. In a month he saw it again. It had increased considerably at one part, without pain, although she had a slight uneasiness. There was no adhesion to the skin; no discolouration, nor other changes in the integuments, excepting that the nipple was somewhat enlarged and the surrounding parts seemed to rise around it, giving the aspect of its being drawn in, although in fact it was of greater dimensions than natural. Not exactly knowing what the alteration was, but fearing that it might, sooner or later, prove carcinomatous, Dr. Warren proposed, and the patient assented to, its removal. The whole of the gland was amputated, leaving a covering of cellular texture over the pectoral muscle. The wound healed by the first intention, and the patient was well in a few days.

" On handling the tumour after its extirpation it was found much firmer than the natural gland: but not scirrhous. The anterior surface presenting nothing remarkable at first view, I turned to the posterior face, and then perceived the soft tumour, whose cavity you here notice, about the size of a nutmeg, and filled with a reddish water. Near to this, were smaller cysts, some of them with opaque, but many with transparent sacs of a yellowish colour, and containing a yellow fluid, which gave them this appearance. Other little eminences were seen covering the whole posterior surface, most of them not larger than the head of a pin and not containing a visible fluid. Again examining the anterior face, I perceived on a slight section that the gland was filled with these little bodies, not larger than a pin's head. The glandular texture appeared to be buried in an adventitious white substance, which obscured its natural aspect and seemed to be a deposit between its lobes, filled with the small bodies abovementioned.

The tumour then was constituted by the species of hydatid, called by Sir Astley Cooper, cellulous hydatid, mostly in an incipient state. The sudden increase of swelling was caused by the formation of fluid in the large cyst, which constituted a considerable part of the tumour. Had the disease been left to itself, it would soon have attained a great size." 210.

Cartilaginous and Osseous Tumor.—Dr. Warren has not seen this as a distinct disease, but he has witnessed two or three instances of cartilaginous formation, and one of calcareous deposition in the scirrhous breast.

Scrofulous Breast.—Dr. Warren details some examples of this affection. But the only case, which we think it necessary to particularize, is not an insance of scrofulous mamma, but of a strumous abscess in the vicinity of the breast, accompanied with a fistulous opening into the lungs, and ultimately cured. The case is related in the words of Dr. Pierson, by whom it was communicated to Dr. Warren.

Case.—Miss—— applied to Dr. P., in September, 1831, with a somewhat painful rising on the sternum, just beneath the articulation of the clavicle, which had been several weeks in reaching its size, about two inches in length by one in breadth. The application of leeches, poultices, &c., had no effect to disperse it, and on the 1st of October, the tumor having become softened was opened, and a moderate quantity of thin pus, with some curdy shred, was discharged. There was a relief of the painful and inflammatory symptoms after the discharge, but the interior of the cavity did not heal, and a fistulous opening was established.

"On the 17th of January, 1837, I dilated the opening in two directions as the sinus was found to be bifurcated at the top. The lower portion of the sinus healed, while the upper continued to discharge. In this state she visited you on the 7th of February, 1832. It was at this time she commenced using injections of hydriodate of potass, and after they had been thrown into the sinus three or four times, she found that an effort to cough was occasioned, and a portion of the fluid was ejected from the larynx. In order to be perfectly satisfied of this fact, I directed her to use an injection of wormwood, the taste of which she instantly perceived on coughing it up.—There was a gradual diminution of the discharge till the sinus appeared to be very narrow, but still there was constantly a degree of moisture exuding from a minute opening, through which a probe would pass, till it was stopped against the cartilage of the second rib on the right side. This continued to be the condition of it till the month of August, after which I was absent from the country, but the same treatment was continued for several months. During a portion of the treatment the external orifice of the sinus was dilated with sponge, by which means a more complete application of the hydriodate of potass was effected. During this period the sinus completely healed. Her general health was at times impaired, and some pulmonary symptoms caused a degree of anxiety, but nothing of a very serious nature occurred, and the only remedies used were a proper attention to diet, exercise, and the functions of the alimentary canal." 224.

Dr. Pierson saw Miss —— on the 2nd October, 1836. The skin was then perfectly healed, and not in the least tender. It adhered in one small point to the sternum, and she occasionally felt some sensations of stricture within the chest.

Irritable Tumor of the breast.—We need scarcely tell our readers that this is a small, hard, sometimes knotted tumor in adult females, married and unmarried, distinguished by its tenderness and disposition to inflame and become painful at intervals, which are sometimes regular. The following case illustrates the disorder very fairly.

Case.—A young married lady, with a child seven months old, came to Dr. W. from the country, with a tumor in the right breast, which she had been advised to have removed. She was a delicate person, twenty-two years of age; had formerly been under his care for two or three years, for an affection of the retina, which deprived her of the use of her eyes; but from this she had wholly recovered. At the end of a month after her confinement, she had severe inflammation of the breast, without suppuration, which terminated in leaving a small, hard, tender tumor. At the time Dr. W. saw her, the whole breast was swelled and very painful; with quite a severe constitutional disturbance; quick pulse; great heat; pain in the head; nausea; loss of appetite. Leeches with warm fomentations and purgatives being applied, the swelling of the breast disappeared on the fifth day, and left the small hard tumor as before. She informed Dr. W. that these paroxysms occured about once a month, though not regularly.—The course advised was to employ leeches and warm fomentations of stramonium in the paroxysms, and in the intervals, to take the sulphate of iron, not exceeding a grain three times a day, and to continue nursing her child. She had only one paroxysms after this, the tumor disappeared, and both the child and herself enjoyed excellent health,

Dr. Warren speaks of a preparation which exhibits the anatomical structure of the tumor. The latter is of an oblong form, about two inches in length, and an inch and a half through. On cutting it open, it displayed a remarkable redness, almost as much as if it had been injected; while the surrounding cellular texture is colourless. The tumor seems to be composed of cellular texture in a condensed state, containing many small bloodvessels. It was taken from a young lady, about twenty years old, who perfectly recovered from the operation, and has remained well since.

We see nothing more in the account of the non-malignant tumors of the breast to occupy us, and we proceed to the malignant. As before, it is only necessary to pick out something here and there. The descriptions are too elementary to permit analysis.

Fungoid Disease of the Breast is cursorily noticed.

Scirrhus.—The observations on this are more lengthened. Dr. Warren offers an account of the appearances presented by a scirrhous tumor of small size, and at an early stage of its existence, which seems to us to be accurate.

Proceeding, he says, from the surface inwards, and scraping away the fat of the breast, a number of white processes are seen radiated from the central nucleus. These as first seem to be mere cords, but on observing further, they proved to be membranous prolongations from the central nucleus to various parts of the breast. Coming to the nucleus itself, this is found to be hard and irregular, and requiring an incision. Cutting though this hard body, we find it grows more firm as we approach its central point, where its hardness is very great. On examining the section thus made, we find the circumference of the nucleus constituted by a membrane or cyst which has different degrees of distinctness, and disappears at one part where its scirrhous substance is continuous with that of the breast. The substance within the cyst is composed of granulated bodies intermixed with a white mass, of a fibrous aspect and radiated direction. In some instances, the colour of the contents of the cyst is dark. The hard nucleus after a time softens gradually to the consistence of a paste. An absorbtion of a part of it takes place, and in the cavity thus formed there is a fluid of variable colour, either reddish, purple, or black. The nucleus itself he has seen black—in other words, melanotic.

Mr. Carmichael believes that scirrhus, tubercle, and fungus are all entozoa, or parasitical animals. The scirrhus entozoary formation consists, in his opinion, of three parts:—first, a cyst; second, a softened substance within the cyst—and these two constitute a parasitical animal; third, the scirrhous or cartilaginous formation, which is a barrier thrown up by nature against the further progress of the parasite. It must be owned that the evidence adduced by Mr. Carmichael is far from satisfactory, and that his statements must be deemed, at present, hypothetical.

We agree with Dr. Warren in the general tenor of his observations on the treatment of scirrhus by an operation. If any thing is to be done it must be done early. Though it is too true that there is usually a constitutional vice, and though an operation, under most favourable circumstances, is too often unsuccessful, yet the experience of all surgeons has shewn that occasionally an early removal of the scirrhous tumor is not succeeded by a return of the disease. "Many successful operations," says Dr. Warren, "in cases of undoubted cancer, I have certainly witnessed. Numbers of my patients, operated on ten, fifteen, and twenty years ago, are still living in health, to give their testimony to this statement."

In a previous article, we observed that Dr. Warren appeared to be imperfectly acquainted with the laws and phenomena of those secondary inflammations and collections of matter which have attracted so much attention in England and France. The following observations of our author go to confirm the suspicion that we entertained.

A female was operated on for scirrhus of the mamma. She bore the operation well, and during the following week was in a favourable condition, with the exception of some degree of difficult breathing. In eight or ten days this difficulty increased, the pulse became very quick, the abdomen tumid and painful; and, after three or four days suffering, she died unexpectedly.

On examining the body, the lungs were adherent to the parietes very closely on the right side, and slightly on the left. The non-adherent surfaces were reddened and uniformly covered with a thin fresh layer of lymph. The surface of the pleura exhibited some irregularities, caused by a thickening of the cellular texture under it. The right lung, especially its upper lobe, was in a state of extreme hyperæmia. The left lung was similary, but more slightly affected. The lower part of the lungs was emphysematous. The mucous membrane of them and of the trachea was inflamed.

The whole surface of the peritoneum was injected and covered with coagulated lymph. The coat of the liver was opaque, its substance crisp. The uterus was enlarged, thickened, very hard, its fundus covered with a hard tumor as large as a walnut. In the substance of the uterus were two or three hard white nodules. These tumors were specimens, no doubt, of "fibrous tumor" of the organ.

This dissection is interesting in this respect. It displayed the condition of the patient at the time of an operation for external malignant disease. Where the irregular thickenings of the cellular texture under the pleura, and the opacity of the coat of the liver preludes to coming malignant alterations of those parts? They wear a suspicious aspect, and shew at all events the dubious state of eternal organs in a patient, who, at the time of operation, evinces no symptoms of internal alterations.

But the motive which principally influenced us in noticing this case, was the wish to correct what appears to us a misapprehension on the part of Dr. Warren. The patient died within three weeks after the operation with inflammation of the pleura and the peritoneum, not marked during life by decisive symptoms. These are the genuine characters of the "secondary inflammations." Let us see what Dr. Warren says upon the subject.

> "The existence of erythema erysipelatorum in the hospital at the time, gives us reason to believe that this patient was affected and died with an erysipelatous inflammation of the internal organs. No cause we are acquainted with can so well explain this sudden and unexpected termination. Nor is such an occurrence new to me. I have seen numbers of patients perish a few days after operations, at the time that erysipelas prevailed in the hospital, without the slightest external erythema. In such instances, I have been in the habit of stating to you that these patients died of erysipelas, as truly as if they had been covered with an erythematous eruption. The disease is constitutional. It may affect the skin, and generally does so. It may affect the internal organs, without affecting the skin; and in such instances is most dangerous." 256.

It is hardly necessary to comment on these remarks. The idea of internal erysipelas is purely gratuitous and hypothetical. The case corresponds in all respects with that class of cases familiarly known as instances of "secondary inflammations after injuries and operations," and when the phenomena can be readily explained by referring them to that class, it is more philosophical to do so, than to go out of the way for a more dubious causation.

Dr. Warren relates an interesting case of death from admission of air into one of the veins in the axilla, during the removal of diseased axillary glands. However strange the circumstance, it would seem but too certain that it occasionally happens, and that every precaution should be taken by the operator to prevent it. Into those precautions, it would be foreign to our purpose to enter at present.

If we do not misunderstand Dr. Warren, he looks on the fibrous tumor of the uterus as scirrhus. This is very dubious, or, rather, both facts and authority are opposed to such a view. Nothing is more common than to find these tumors in females of advanced years who have presented no symptoms of them during life, and who have died of distinct diseases, without any sign of malignant alterations of other organs. We notice this matter more particularly, because Dr. Warren has built some reasoning upon it.

> "Among the inquiries," he observes "in relation to this subject, one would be, whether the uterus is not the organ primarily affected in scirrho-cancer of the breast? It is perhaps more likely to be disturbed by physical and moral causes than the breast; and though disease in the latter organ seems to be excited by local injury in some instances, there are a much greater number where injury of this part does not produce scirrho-cancer. Considering the greater frequency of disease in the uterus than in the breast, is it not probable that where an injury produces disease in this part, the uterus, being previously disordered, may influence the developement of scirrho-cancer, by that sympathy which exists between the two organs?" 278.

No doubt the uterus is more frequently disordered, and more prone to disease, than the mamma is, and no doubt the intimate sympathy between the organs must tend to excite morbid actions in the breast. But Dr. Warren's observations tend, if we do not mistake him, to something more positive—tend to giving the uterus the initiative in a large proportion of the scirrhous formations. On this point, if we do not misconceive him, we are compelled to differ from him.

It is a subject of curious, and could any satisfactory conclusion be arrived at, it would be one of profitable speculation, to examine the causes of constitutional contamination in cases of scirrhus affecting an external organ. Is the scirrhus at first a local and then a constitutional malady?

So far as we can see, the question does not admit of an universal affirmative either way. One patient receives a blow on the breast, a scirrhous tumor is gradually formed, it is removed at an early period by an operation, and no return of malignant disease take place. Such a case makes for the local origin of scirrhus. But another patient belongs to a family distinguished for a liability to scirrhus growths,* without obvious exciting cause she becomes affected with scirrhus of the breast, she is operated on, and she dies with scirrhus of some other organs. This case makes strongly for the constitutional origin of the malady. An exclusive theory appears inadmissible, and whilst we must confess an extreme degree of ignorance with respect to the mode in which scirrhus is produced, or the tendency to scirrhus formed, we must also confess, that so far as our knowledge goes, it leads to the apparently contradictory conclusion, *that* scirrhus is and is not a true constitutional complaint—is at first merely local in some cases, and from the first constitutional in others. This conclusion reduces us to the necessity of exercising the utmost caution in investigating and in treating each particular case, for on the judgment and discrimination of the surgeon it may depend, whether the patient may not lose a life which an operation would have preserved, or undergo an operation which should never have been performed.

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* Dr. Warren relates the following example of hereditary tendency to cancer. "The following instances of hereditary cancer have occurred within my know-

It is consoling to learn, that, according to Dr. Warren, one case in three, within his observation, has been cured by an operation. We fear this is a more flattering estimate of its success than the experience of surgeons in this Country will warrant; but, even with reservation, it is satisfactory.

Cancer of the Breast in the Male.—"This disease is rare; I do not recollect more than two cases of it. One occured twelve years since in a gentleman of this place, about thirty years old. He had not enjoyed good health for three years, being dyspeptic. He had also frequent pains in the chest. These pains at last concentrated in the right side, near the nipple. Passing his hand over this part, he discovered a small tumour. The pains increased and became very severe within six months from the discovery of the tumour. The hardness extended around, involved and drew in the skin, giving it a puckered appearance. The skin ulcerated near the nipple, and discharged a foul matter. I excised the whole scirrhous mass, comprehending the skin with the nipple, and the cellular substance to the pectoral muscle, about four inches in length and two in breadth. The wound of course was long in healing, but has since remained perfectly sound. A few months since I saw him, and ascertained that he was free from pain or trouble at the affected part, and in perfect health." 283.

Tumors about the nipple frequently occur in boys, and are sometimes of long duration. A few leeches are sometimes followed by the disappearance of the tumor. In young infants a tumor also occurs, but subsides spontaneously.

We have seen chronic inflammation of the male breast, in conjunction with venereal tubercle, and yellow ulceration of the throat. It subsided under a mercurial course.

B. *Tumors of the Salivary Glands.*—The sub-maxillary gland, Dr. Warren has found to be frequently enlarged—the parotid rarely—and the sublingual most rarely.

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[1] edge, to a family in this vicinity. The grandfather died of a cancer of the lip; whether others of his generation were affected, I know not. The son had a cancer of the breast, and, at the age of sixty, was operated on by my late father, but died of cancer some years after. Two of his sisters had cancer of the breast, were operated on, and ultimately died of the disease. A daughter of one of the ladies had a cancer of the breast, which I removed at an early period; she recovered, but died some years after of disease of the uterus. A daughter of the gentleman has a cancer of the breast, but declines any operation. I have reason to believe that other members of the family are affected, and conceal the existence of the disease."

He mentions a case illustrative of the powers of the imagination, or of—chance. How many a quack and how many a doctor too gets immense credit from the same sort of occurrence.

> "Some time since, a female presented herself to me, with a tumour of the sub-maxillary gland, which had become troublesome and alarming to her. It was about the size of an egg, had lasted two years, and was so very hard that I considered any attempt to dissipate it by medicine to be vain, and advised its removal by an operation. To this the patient could not bring her mind; therefore, to satisfy her wish, I directed some applications of considerable activity to be made to the part; and these she pursued a number of weeks, without any change. After this she called on me, and with some hesitation begged to know whether an application recommended to her would in my opinion be safe. This consisted in applying the hands of a dead man three times to the diseased part. One of her neighbours now lay dead, and she had an opportunity of trying the experiment, if thought not dangerous. At first I was disposed to divert her from it: but recollecting the power of the imagination, I gravely assured her she might make the trial without apprehension of serious consequences. A while after, she presented herself once more, and, with a smiling countenance, informed me she had used this remedy and no other, since I saw her; and on examining for the tumour, I found it had disappeared." 295.

Dr. Warren has seen two or three instances of scirrhus of the sublingual gland. He knows of no account, nor do we, of removal of that gland by an operation. In a case in which he removed it, the following steps were adopted. The patient being seated in a chair, the mouth kept open by a wedge, the gland was griped by a double-pointed forceps, and an incision the length of the gland made from behind forward on each side. The knife then passed behind the posterior extremity of the gland would have brought it out at the next incision, but the patient made a violent effort to throw out the blood, which compelled the operator to stop. Then, laying down the knife, the excision was completed by a stroke of the scissors. The bleeding was less than was expected. No arteries were tied. The wound healed in about two weeks.

There is nothing on the *Tumors of the Thyroid Gland* to detain us. The same remark applies to the chapter on *Tumors of the Testis.*

c. *Tumors of the Mucous Glands.*—Under this general head, Dr. Warren considers the tumors of the lip, tongue, and intestinal canal, of the bladder, vagina, uterus, and penis—that is, of the mucous membrane of these parts. His observations and conjectures on the subject are summarily contained in the following brief passage.

> "Many of the tumours situated on the mucous membrane, originate in the glands scattered through their course. Perhaps all the cancerous diseases of this texture take their origin in these parts. The early stage of such affections exhibits a white fibrinous* substance, either intermixed with muciparous glands or lying on their surface; and the glands themselves are much enlarged in the vicinity of the tumour. Even we can discern, by the microscope, spiculi, of whitish substance, extending from them, and running into the fibrinous induration, or from the indurated texture to the glands. There is therefore, it seems,

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* "By fibrinous substance, I mean a texture formed of, and resembling the fibrin of the blood. Fibrous substance I understand to mean the white, insensible, inelastic texture of tendons and aponeuroses."

a deposite of new substance from the disordered glands, which forms the beginning of these tumours. This deposit goes on to a limited extent; and in a longer or shorter time, ulceration begins, commonly at the most superficial part. Then an ill-looking excrescence is protruded; and thus ulceration and deposition go on together, in a slow manner. We can easily conceive of the progress of increased deposition from some local irritation, as tobacco, applied to a part covered by a thin cuticle. But what brings on this process of ulceration, is not so easy to explain.

The early stage of this disease is not accompanied with pain. When ulceration begins, there is a burning and shooting sensation. After the disease has continued for some time, the lymphatic glands, in the course of the absorbent vessels, become swollen, and the disease may then be considered as incurable." 340

There can be little doubt, that the mucous glands are the most frequent seat of the tumors which form in or spring from mucous membranes. But such tumors are certainly developed at times in other portions of the tissue.

Dr. Warren says nothing of consequence on *Cancer of the Lip.*

Tumors of the Tongue. Dr. Warren observes that there is an enlargement of the mucous glands of the tongue, formidable in appearance, but not malignant. These glands become quite prominent; of a strong red colour; are seen most commonly in the lateral parts of the organ; and present an appearance which might be mistaken for that of a fungous tumor. On examination, it will be found, in these cases, that, the patient having been out of health, some local cause, as a broken tooth, has irritated the tongue, and produced the appearance mentioned. The part is sensitive; not painful; there is no real ulceration nor thickening of the tongue: by which circumstances the disease is distinguished from cancer.

After giving a case which is incomplete, he goes on to remark, that, the large mucous glands on the surface of the tongue, near its root, are sometimes swollen from a derangement of the stomach. This condition may continue for months, but at length gives way to a proper regulation of the stomach and bowels. It is sometimes useful to make a local application of the solution of nitrate of silver.

The glands at the back part of the pharynx, behind the fauces, and also those lower down behind the larynx, are subject to a similar affection. Those in the last situation, being seated in the contracted part of the pharynx, cause much inconvenience and are least tractable. Neither of these affections are of a scirrhous nature.—The same course of treatment is proper in both. When the nitrate of silver is applied in the last situation, it may be done by the sponge of a probang, dipt in the solution.

The tongue, and the lips, and the mucous membrane of the mouth, are subject to a small blue-coloured rising, which is constituted by a cyst, containing a transparent, glairy fluid. This often subsides of itself; sometimes is cured by a puncture, to discharge its contents; and sometimes requires excision.

These statements coincide perfectly with our own experience. We would add that a kind of chronic inflammation of the mucous glands at the root of the tongue and of those on the posterior wall of the pharynx is not uncommon in persons who have had secondary syphilitic ulceration of the throat, or who have undergone a protracted course of mercury. On looking into the fauces the mucous glands are perceived to be enlarged and red, and usually a certain quantity of muco-purulent secretion is seen adhering to the back of the pharynx. In conjunction with these appearances, the mucous membrane both of the the tongue and of the pharynx is not uncommonly denuded more or less of its epithelium, and an incautious or ill-informed person may and often does mistake the affection for secondary ulceration of the parts.

The treatment of these cases consists in regulating the secretions—in improving the general health by mild tonics, proper diet, change of air—and in ringing the changes on astringent local applications, including the use of the nitrate of silver. The complaint is troublesome and tedious, but it has always, in our experience, been ultimately cured.

Passing over *Cancer of the Tongue*, to our knowledge of which Dr. W. does not sensibly contribute, and *Scirrhus of the Soft Palate*, we may introduce a case of tumor of the pharynx, remarkable for the hazardous but successful operation performed for it.

> *Case.* "In the month of June, 1835, my attention was called to a disease of this kind by Dr. Shattuck. A patient of his, Mrs. Aves, sixty years old, had been labouring under a scirrhous tumour, on the left side of the pharynx, for some years. When I saw it, the fauces were nearly filled, respiration was impeded, and deglutition difficult. Her pulse was quick, tongue furred, appetite poor, and she had the aspect of a person sinking under the pressure of disease. I was disposed to decline any operation, from the little hope of a radical cure, and the great danger of immediate death. Dr. Shattuck urged that she must die with the disease, and that, if the removal of the tumour did not effect eradication, it yet might give some relief from the distressing state in which she was. These reasons influenced me to perform the operation immediately. The jaws being fixed, the hard tumour was seized with a pointed forceps, and, with a round-edged knife, I removed the mass by two strokes of the instrument. An enormous gush of blood followed. Passing the finger in, I felt another mass in the pharynx, below the first, which was seized, and cut out by a curved probe-pointed bistery. When the hæmorrhage had a little subsided, a red-hot iron was passed, on a conductor, to the diseased spot twice. No further hæmorrhage occured." 357.

Some applications of caustic potass were subsequently necessary, and an exfoliation of a small piece of the superior maxillary bone followed. The patient slowly recovered, but died in the Winter of 1836 of an accidental peritonitis. The tumor was partly of a cartilaginous consistence, and contained calcareous matter.

We cannot say that we approve of operations for malignant disease on tumors in such situations. When we put together the immediate risk, the uncertainty with respect to the complete extirpation of the morbid mass, and the probabilities of a future return of the complaint, we offer, we think, sufficient reasons for prudent surgeons to hold their hands.

In speaking of *Enlarged Tonsils*, Dr. Warren recommends for their excision an instrument resembling that of Dr. Physick. It is something like a guillotine in miniature,—a convex knife, sliding in a grooved ring of a diameter proportioned to the size of the tumor, from an inch downwards. Being passed into the mouth, it compresses the tongue; the ring is slipped over the tonsil; the knife is pushed down, and cuts it off. The whole tonsil is not removed in this operation. This is impracticable and unnecessary.—It is proper to have at hand the means of applying the actual cautery, should the severity of hæmorrhage require it. Dr. Warren recommends the operation in cases of high inflammation of the tonsil.

Some cursory observations are made on tumors of the mucous glands of the stomach and intestines. The only passage which requires notice is Dr. Warren's account of "scirrhus cancer" of the rectum, a disease rare in comparison with the stricture produced by scirrhous parietes of the canal. It is seated most frequently, according to our author, at the back part of the cavity, towards the os sacrum. It begins with a roughness of the intestine, like a cluster of enlarged mucous glands. It soon makes itself known by a pain in evacuation, which increases with the growth of the tumor, and at last becomes excessive. In the early stage there is no discharge but of blood. After it has attained a considerable size, a discharge of mucus and occasionally of a little pus appears. The pain becoming constant, and very distressing on evacuations, the patient is obliged to resort to full doses of opium. The disease is always fatal.

Tumors of the Mucous Glands of the Vagina.—Enlargements, says our author, of the mucous glands occur most frequently in females of delicate and scrofulous habit. They appear scattered through the parietes of the canal, in the form of papillary eminences, of various size, from that of a millet seed to that of a pea. When very small, no distinct symptoms indicate their existence, excepting there is an actual examination by touch. When of large size, an uneasiness exists in the passage; a slight discharge; paroxysms of strangury; and a distinct tenderness on touching them.

In illustration of the preceding description, he relates a case.

A married lady, aged 22, who had had no children, complained of an uneasiness in the urethra, with a bearing down, frequent attacks of strangury, a constant sense of heat in the vagina, and a mucous discharge, sometimes tinged with blood. On making an examination with the finger, the parietes of the vagina were found studded with enlarged glands, of various sizes. When pressed, these were painfully affected, the larger more than the small. Her health was tolerably good otherwise. The menstrual evacuations were regular.—She was advised to assume the horizontal posture, use a warm injection of soap and water twice a day, apply six leeches to the perineum every five days, and avoid the use of animal food. The treatment was continued many weeks, without change in the symptoms. At the end of four months, the burning diminished. It was not till after seven months' steady pursuit of the course, that the strangury and heat in the affected part ceased. A discharge continued two or three weeks longer. The examination at the end of this time was without any uneasy sensations; the tumors had disappeared; and she has recovered perfect health, and retained it for some years.

Some brief descriptions of *Tumors of the Uterus*, and of *Cancer of the Penis* complete the Section devoted to tumors of the glands. With the termination of that Section we also terminate this article. As we observed, it could not be analytical, because in a work professing to record experience, much must be familiar, and what is new or striking is necessarily unconnected in detail. Dr. Warren enables us to bring before the English public a not-unfavourable view of American surgery, and in that point of view, if in no other, he would lay us under obligations to him. In our next Number we shall conclude our account of the work, and we hope we shall have conveyed to our readers some valuable remarks of the author, some important facts, and some useful reflections on a subject which is attracting and must ever attract the attention of the profession—the morbid growths to which the body is liable.

Periscope,

OR

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

An Essay on Pyrexia, or Symptomatic Fever, as illustrative of the Nature of Fever in General. By *Henry Clutterbuck*, M.D. 8vo. Highley, 1837.

Our readers are not to be informed at this time of day, that ever since the first publications of Dr. Clutterbuck and M. Broussais, the medical world has been a good deal divided respecting the nature and seat of fever. One party looks upon every fever as having some local focus of irritation or inflammation, cognizable or incognizable, whence the pyrexial symptoms radiate to every part of the machine by sympathy. The other party still maintains that the phenomena of fever may be produced by some general impression on the system, as for example, by malaria, without any necessary dependence on topical inflammation. If Dr. Clutterbuck and M. Broussais had agreed on the "local habitation" of fever, the coincidence would have been a strong corroboration of their doctrine, but unfortunately the Briton fixed on the brain, while the Frenchman determined on the gastro-intestinal canal as the seat of the irritation or phlogosis. When, indeed, we reflect on the numerous moral causes which disturb the sensorial functions in man, and the wide class of both moral and physical causes which derange the digestive functions in the same animal, we need not wonder that the followers of Clutterbuck and Broussais should find ample proofs, during life and after death, of the ravages of fever, both in the brain and intestinal canal. Upon far fewer facts than they possess, many an ingenious theory has been built, to yield, in its turn, to some more powerful successor. But, after all, when we observe the phenomena of intermittent fever—the type of continued fever—we can hardly reconcile them with the existence of topical inflammation *as the cause of the phenomena.*

Dr. Clutterbuck having, in a former work, traced the cause of what is called continued or idiopathic fever, to inflammation of the brain, has now completed his task by treating of the various symptomatic fevers, or those which are obviously dependent on inflammation of one or more parts of the body. This procedure cuts away all ground for controversy, because all have long been agreed that the symptomatic fevers are the consequences of topical phlogosis. There is, however, one point left open for litigation. Holding to the doctrine that all fevers depend on local inflammation, the Doctor maintains that when we cannot detect the seat of the pyrexia, as in the chest, abdomen, or head, we are, nevertheless to infer that it exists, and act accordingly. This is a somewhat heavy tax on our faith.

"The object of the following pages is to endeavour to shew that a *febrile* state of system, or what is technically denominated *symptomatic fever*, is always a *secondary* affection, the result of inflammation, and of no other cause. In this respect, the subject is of importance for the purpose of *diagnosis*, as it may lead us to discover the existence of inflammation in cases where it might not otherwise be suspected, that is, in cases where the local signs are not obvious, or with difficulty to be observed. It is not unimportant, likewise, in regard to practice; for although *pyrexia* be but a secondary state, it is capable of influencing materially both the primary disease (the inflammation which produced it) and the general system. Its influence on the primary disease is sometimes favourable, sometimes the reverse, according to circumstances that will be pointed out. It is often the cause of greater suffering to the patient than the local disease that gave rise to it; and is sometimes the more immediate cause of the fatal termination, as in the case of *pulmonary consumption.* Persons dying of this most fatal of diseases, are more frequently destroyed by the *hectic fever* (one of the forms of *pyrexia*), and the disorder this occasions in functions that are essential to the continuance of life, than by the absolute destruction of the lungs themselves; which are seldom so much or so extensively injured in their structure, as to be altogether incapable of carrying on their peculiar function in a manner adequate to the support of life. Hence, our efforts are most usefully directed towards controlling the *hectic* symptoms, for over the local disease we have little power." *Introd.* vii.

Symptomatic pyrexia, characterized by *heat of skin, frequency of pulse, and foulness of tongue*, has never, Dr. C. maintains, been accurately distinguished by systematic writers from what are called idiopathic fevers. We must admit, indeed, that there is no one symptom in general fever, which may not occasionally present itself in symptomatic fever. The prostration of strength is usually greater in idiopathic than in symptomatic pyrexia, and this fact is brought forward by our author as a strong support of his doctrine that the brain (the source of voluntary power) is the seat of the former disease. We are ready to confess that there is something in this argument.

General fever has always been represented as consisting of three stages, more or less marked—the cold, the hot, and the sweating stage—all being concluded, in general, within the twenty-four hours. Dr. C. maintains that the same phenomena obtain in the symptomatic fevers. Certainly in hectic fever there is very often found a daily paroxysm of the three stages alluded to, and in most inflammations, say pneumonia, there is a cold stage or shivering, at the beginning, succeeded by re-action, and occasionally terminating, or rather remitting in slight moisture on the skin. But Dr. Clutterbuck himself acknowledges that the hot stage lasts some hours—days—or even *weeks*—the pyrexia being modified by exacerbations and remissions. He thinks, however, that the three stages commonly bear some proportion to each other, even in the symptomatic fevers. No doubt when the rigor is very severe and long-continued, we may expect a tremendous re-action, and probably perspiration:—but when the chilly stage is scarcely perceptible, we have afterwards a long fever, little varied, for some weeks. In such cases, the proportion seems very much like disproportion.

We quote the following passage as evincing accurate observation at the bedside of sickness.

" The change in the appearance of the tongue is one of the most remarkable of these, and the most deserving of attention; because it serves, better than any other single sign, to mark the slightest degrees of *febrile action.* For in numerous instances, where neither the *pulse* is quickened nor the *heat of skin* sensibly increased, the existence of *pyrexia*, or a *febrile state*, is shewn by some or other of the changes in the appearance of the tongue now to be mentioned.

Whenever a *febrile* state of system arises, whatever be the cause, the appearance of the tongue undergoes a remarkable change. In most cases, its upper surface (and this only), instead of the usual florid colour which belongs to it in health, becomes covered, to a greater or less extent, with an apparent crust, or *fur*, as it is called,* that differs in thickness, colour, and other respects, at different times, so as to afford the most important indications, not merely of the existence of *pyrexia* (and therefore of its cause, *inflammation*), but likewise, in many cases, of the degree and quality of the inflammation, the danger that attends it, and, sometimes, even of the particular seat it occupies in the body.

In slight *febrile* disorders, that are apparently without danger, the fur on the tongue is of small extent, and confined to the middle and backs parts of its surface; and it is also generally thin, and light in colour. If the disease be on the increase, the fur on the tongue becomes thicker and more extensive, so as often to cover the whole of its upper surface. It also acquires in such cases a darker hue; and if the disease is likely to prove fatal, the colour changes to a dark yellow, or brown, and, in certain cases, to absolute blackness. Generally speaking, the drier the tongue is, the more active and violent is the existing inflammation.

On some occasions, as in certain varieties of *idiopathic* fever, there is no observable fur on the tongue; its appearance, nevertheless, is very different from that of health, so as to mark sufficiently the *febrile state*. It becomes in such cases preternaturally red, as if deprived of its cuticle, and resembles raw flesh; and it is attended with soreness, so as to become painful, when irritating matter of any kind is applied to it.

When the *liver* is affected by inflammation, and the disease is so situated as to interrupt, or even to impede considerably, the passage of the bile into the intestine, the crust on the tongue is of a yellowish or *bilious* appearance, thus indicating the seat of the inflammation. When, again, the cerebral substance is generally or extensively inflamed, as in *simple* fever of the *typhoid kind*, the tongue turns more or less brown, according to the degree and danger of the disease. Nothing, in fact, is more characteristic of *proper* or *idiopathic* fever, than this brown appearance of the tongue; and when, as frequently happens, *proper fever* (brain affection) arises in the course of *pulmonic* inflammation, or any other, the complication is marked by the change in the appearance of the tongue here mentioned; accompanied by a manifestly disordered state of the *sensorial* functions, in addition to the proper pulmonary symptoms.

As a furred tongue is an unequivocal sign of existing *pyrexia*, or *febrile action* (as this again is of inflammation), so its disappearance is a criterion of returning health that is rarely found to disappoint us. And when important organs are suffering from inflammation, a patient can hardly be considered safe, so long as much foulness of the tongue remains; nor ought we, in such circumstances, to relax in our endeavours to give relief.

The crust on the tongue sometimes disappears gradually, and almost imperceptibly; at other times, the separation is effected abruptly; the crust cracks and peels off in flakes; presenting a ragged appearance, and often leaving the surface beneath excoriated and sore.

I may remark here, that the indications afforded by this state of the tongue have often been mistaken, and the appearance referred to a wrong source. It has been, and, indeed, still is, a prevailing opinion (though only of late years, since the *stomach* has been looked to as the great focus of disease), that the tongue is, as it were, an *index* to the stomach; and that its appearance is but a counterpart, or type, of that which exists in the latter organ. It seems to be imagined, that where the tongue is foul and coated, a similar condition exists in the stomach, if not throughout the alimentary canal. It has been even thought that, in the case of *aphthæ* or *thrush*, the same white vesicular appearance that is observed in the mouth and fauces, extends, at times, throughout the whole alimentary canal; and this is considered to be proved by a similar appearance being observed at the extremity of the rectum. Of this, however there is no proof. The peculiar appearance observed in the mouth and fauces, in cases of *aphthæ*, is an affection of the skin, and of the cuticle covering it: but these structures can hardly be traced beyond the fauces. Inflammation no doubt often exists, in such cases, throughout the mucous membrane of the intestines; as indicated by pain, and soreness, and an abundant and acrid secretion from the inflamed surfaces: but this is very different from the fur on the tongue that accompanies the *febrile state* simply, and which commonly takes place without any corresponding disorder of the stomach or intestinal canal. The tongue, in short, is an *index* to the *sanguiferous system*, the excited and disordered state of which it clearly serves to mark; and not to the *stomach*, as commonly supposed. This is a point of some importance, practically considered. The employment of *purgatives*, and other means directed particularly to the stomach, on the latter supposition, is, doubtless, often highly useful, as tending to relieve inflammation when it really exists, and, by so doing, clears the tongue; but the objection is, that such treatment is not always adequate to the purpose, and requires the aid of more active remedies, and of *blood-letting* more especially, which cannot always be dispensed with." 17.

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* "It is not, however, a deposition of foul matter on the tongue, but an alteration of its natural covering, the cuticle."

The various secretions are much changed and disordered in pyrexia—generally diminished. Hence the dryness of the mouth and skin, the constipation of the bowels, the paucity of the urine, and the dark colour of the motions.

In the second secton, Dr. C. adverts to the changes observed in the blood during pyrexia, but offers nothing that is not well known. In the third Section he adverts to the varieties of pyrexia. They may exist in all degrees—from states in which the pulse, tongue, secretions, &c. are scarcely altered, in any perceptible degree, from their natural condition, up to the most violent synocha. These varieties depend, of course, on age, temperament, the nature of the cause, and the structure of the part inflamed.

Section four takes up the *causes* of pyrexia. The fever, of course, is a secondary state, or consequence. But how does the inflamed part influence the whole system? It is not, Dr. C. thinks, by *pain*, since parturition and the passage of gall-stones, &c. are usually unproductive of pyrexia. It must be by irritation the result of *inflammation*, and not of spasm. Our author is often in the habit of recurring to the old subject—general fever from cerebral inflammation—for illustrations of symptomatic pyrexia. Thus if we have fever without any apparent topical affection, the latter is either masked, or the fever depends on the state of brain, as was demonstrated in a former work. Our ingenious author appears to have a horror of that old scholastic dogma—" de non apparentibus et non existentibus eadem est ratio."

" It cannot be denied, that many instances occur of a *febrile* state of system, in which, for a time at least, the existence of topical inflammation, is by no means obvious. Such cases have been called *general* or *universal* diseases, or diseases of the whole system; as if no part or organ suffered primarily or essentially more than the rest, or was immediately concerned in the production of the *febrile* state. The case of *proper* or *idiopathic fever* has been especially relied upon, in proof. A little consideration, however, will, I think, shew, that this is far from being conclusive on the subject: for, in the first place, it may be observed, that inflammation often exists where it is not suspected. It is by no means uncommon for indubitable traces of pre-existing inflammation to be met with after death, of which no suspicion was entertained during life; and that even in the most important organs, as the brain and lungs, as well as many others. This may be accounted for on different grounds; as, first, the not distinguishing sufficiently between the *primary* and essential, or *pathognomonic*, symptoms of a disease, and such as are only *secondary*, or of casual occurrence; the latter being often more striking, and more distressing to the patient, than the former; and hence both the seat and nature of the disease are liable to be overlooked. Inflammation of the liver is thus frequently not noticed, from the attention of the parent being directed exclusively to the disordered functions and feelings of the stomach, which, under the convenient name of *dyspepsia*, are considered and treated as the primary disease; often with the effect of aggravating the hepatic inflammation. In like manner, inflammation of the brain, in children more especially, is frequently ushered in by *vomiting;* and is hence considered as an affection of the stomach merely, and treated as such, perhaps by *stimulants* or *opiates*, till the occurrence of more strongly-marked cerebral symptoms denotes the true nature of the disease—a discovery that is sometimes made too late.

Another cause of inflammation being frequently overlooked, is the small share of sensibility possessed by many internal organs, which, on that account, may be actively and even fatally diseased, without being attended with pain sufficient to attract notice. The *liver* and *lungs* both furnish instances of this, but still more the *brain.* This organ, though the source of feeling to other parts, is itself among the most insensible, and its diseases in consequence the most liable to be overlooked. It is not by pain in the head, therefore, that we are enabled to judge of the degree or nature of disease in the brain, but by the disordered state of the cerebral functions. In the most acute instances of *phrenitis*, the disease often proceeds to a fatal termination, without pain in the head being at all complained of. So also, in many cases of *idiopathic* fever, the pain in the head is inconsiderable, and quite disproportionate to the other symptoms of the disease; or, if the pain in the head be at first severe, it ceases to be complained of in the more advanced stages of the disease. This may be partly ascribed to the disturbed state of the mental function in those cases; but is referrible also, in part, to the natural insensibility of the organ itself.

The case of *idiopathic* fever, therefore, that has been so much relied upon, as shewing that *pyrexia*, or a febrile state of system, may take place without the presence of inflammation, does not appear to furnish conclusive evidence on the point; because, as I have just stated, inflammation may be going on in the brain, although little or no pain be complained of at the time. It is certain, however, from the disturbed state of the *sensorial* functions (admitted to be present in every case of proper or *idiopathic* fever,) that active disease of some kind is going on in the brain; and that such affection consists in inflammation, is a matter of fair inference, from the general character of the symptoms as compared with those induced by other acknowledged inflammations in this part; while this conclusion receives all the support from dissection that could reasonably be looked for, as I have elsewhere endeavoured to show."* 54.

It is a thousand pities that Dr. Clutterbuck had not gone to the BAR. A better special pleader could hardly be found than he is, even in physic. But had he studied the other profession, he would have "puzzled a Philadelphia lawyer"—and that is saying a good deal!

The 5th Section is on the nature of pyrexia. The ratio symptomatum must be pretty nearly the same whether we consider the fever idiopathic or symptomatic. In running over the various phenomena presented by the vascular system, Dr. C. mentions a rather staggering fact.

"If the arteries be examined after death, in cases where the febrile action has been violent during life, their lining membrane, as well as that of the heart and larger veins, is found to be highly reddened, so as to resemble the *tunica conjunctiva* of the eye in an inflamed state, and the substance of the vessel altogether is observed to be thickened." 63.

We very much doubt whether such appearances will be found in a majority of even the most violent inflammatory fevers—but at all events, such post mortem phenomena will not be found in one case out of twenty of the ordinary fevers, whether idiopathic or symptomatic, of this country. They are therefore, very poor props for any theory. Our author, however, has too much sagacity not to perceive that "the disturbance in the condition of the brain is hardly less apparent than that observable in the organs of the circulation." No doubt of it. The nervous affection "appears to constitute, if not the first, at least one of the most important links in the chain of morbid phenomena that characterize *pyrexia*, or the febrile state." This is true as far as idiopathic fever is concerned; but we appeal to all practical men whether, in the symptomatic fevers, as in pneumonia, for example, the vascular system is not more prominently and primarily affected than the nervous? How often do we see the most intense and dangerous, and local inflammations going on, with very little affection of the sensorial functions? Not so, in idiopathic pyrexia.

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* "Inquiry into the Seat and Nature of Fever.

Dr. C. is of opinion that without the aid of SYMPATHY, or that mysterious consent between part and part, and between parts and the whole, we cannot account for the general fever that supervenes on local inflammation.

"From these and other facts, it would seem that the brain is the great organ of *sympathy*, or medium of communication, between different parts of the body, as it evidently is between *body* and *mind*." 71

The practical drift, then, of the whole theory of our author is this:—that the presence of fever indicates some local inflammation, the seat of which we are to find out, if we can—and if so, to use local as well as general depletion. But even if we cannot detect the locality of the phlogosis, we must still treat the fever as the offspring of inflammation—namely by depletion.

In a subsequent Section Dr. C. notices the consequences of pyrexia, namely, debility, emaciation, occasional hæmorrhage, dropsy, and tendency to inflammation in other organs besides those originally affected. These phenomena are well understood, and need not detain us here

Treatment of Pyrexia in General.—After what has been said, we can hardly be surprised that Dr. C. is an advocate for the antiphlogistic and even depletory system of treatment, where there is apparent or inferred topical inflammation. He acknowledges, indeed, that—

"Instances occur, almost daily, of slight inflammations, occasioned by *cold*, (as catarrh, sore-throat, rheumatism, &c.) being successfully treated by *stimulants* of an active kind, under the denomination of *diaphoretics* or *sudorifics*; such as *camphor*, *ammonia*, the *hot-bath*, and various others. These, by exciting the sanguiferous system, rather tend, at first, to produce or aggravate the febrile state; but if they be so managed as to induce sweating, the febrile symptoms often subside, and, at the same time, the primary inflammation which caused them. This mode of practice, however, is rather equivocal in its effects, and requires caution; for where it does not succeed in removing the primary inflammation, it is sometimes found to aggravate it. Whenever, therefore, the inflammation is seated in organs of importance to life, and which it is desirable to suppress quickly, it is hardly advisable to proceed in this way. The *sudorific* practice, however, is rendered more safe in such cases, and, at the same time, more effectual, by previous abstraction of blood, in proportion to the habit of the patient, and other circumstances." 85.

In the foregoing extract the adroit and ingenious special pleading of our author is sufficiently obvious. Dr. C. admits that, "in ordinary *continued fevers*, of a mild description, this mode of treatment (*diaphoretic*) has been, and, indeed, still is, in very general use, in preference to the more active, though unquestionably more effective means of cure by *blood-letting*." We quite agree with Dr C. that venesection or equivalent depletion is more calculated to save than waste strength, where actual inflammatory action is going forward in the system. But the difficulty in adopting our author's methodus medendi lies in the amalgamation which he makes of idiopathic and symptomatic fevers. Bleed, purge, and sweat, say we, when inflammation is *proved* to exist;—but be cautious, or at least very sparing, of the lancet, where the proof of topical phlogosis is wanting and where we have only Dr. C's theory to rely upon, instead of ocular or tangible demonstration.

The following passage, we think requires some comment. Speaking of topical inflammation, as for example of the lungs, he says:—

"In violent inflammations in general, wherever seated, and especially if the patient be of a vigorous or inflammatory habit, and the disease recent; attended too, as it commonly is under such circumstances, by high *febrile* action, it is essential to endeavour to subdue this by the most active means; not only for the purpose of guarding against the consequences formerly mentioned, but also as the best means of influencing the primary disease itself: for in the most important inflammations, the part primarily affected is out of the reach of direct or topical remedies. And even where it is accessible, experience shews that local treatment is often less efficacious than the use of general remedies. Accordingly, it is found that the reduction of the *febrile action* by *blood-letting* and other *antiphlogistic* means, proves the first, and often indeed the only, step requisite to the cure; the primary disease giving way immediately that this object is attained. It is, however, important to repeat here, that this is not universally the case; for the *febrile symptoms* may wholly disappear, while the primary inflammation still continues, though, perhaps, in a mitigated form. Our care, therefore, is not to be limited merely to the removal of the *febrile symptoms* in inflammations of important organs, such as the brain or lungs, but should be continued till the *local* signs, as well as the general disorder of system, have wholly disappeared. The neglect of this, as a rule of practice, often leads to fatal mischief at a remote period afterwards; as in *pneumonia* more especially, where, if the slightest degree of inflammation be allowed to remain in the lungs, it is likely to produce disorganization, the ultimate result of which often is, *pulmonary consumption*." 92.

Now with every respect for Dr. Clutterbuck, as an old, talented, and experienced physician, we cannot help entering our caveat against the foregoing practice. We dissent from the rule of pursuing *general* bleeding in all cases of pulmonic inflammation, or even in a majority of them, till the *local* symptoms have "wholly disappeared." Were we, for example, in delicate people, predisposed to phthisis, to carry *general bleeding* to the extent of totally annihilating the cough that attends, and, for some time, continues after, pulmonic inflammation, we would do much mischief. We would break down the tone of the constitution, and give fresh impetus to the development of tubercles—thus accelerating that fatal event, phthisis, which it ought to be our great object to prevent. No. When the sympathetic fever is reduced by general depletion, the best practice, in our opinion at least, is to remove the cough and local pains by local depletion and counter-irritation, diet, and antiphlogistic medicines. In this way we husband the powers of the constitution while we eradicate the local phlogosis and its sequels.

Dr. C. extends his principle of treatment (namely the reduction of "*febrile* symptoms" by general means) to hectic fever "attending ulceration of the lungs." We confess that, little as we expect from the boasted specifics for consumption, we should anticipate still less from this general depletory system in excavations of the lungs. We shall, however, in fairness to the author, allow himself to explain his practice.

"The case of *hectic fever*, as occurring in *pulmonary consumption*, serves to illustrate what has now been said. In the confirmed state of this disease, a cure is rarely to be expected from this or any other means. Yet much may be done to mitigate the violence of febrile action (the *hectic*); by doing which, much suffering is spared to the patient, and life often prolonged to a considerable extent. These important objects may be accomplished in many instances by bloodletting, repeated from time to time, but always in small quantities, as from three or four to five or six ounces at a time; the rule being in such cases, so to draw blood, as not sensibly to disturb the functions or feelings of the patient. When used with these precautions, and while a tolerable share of general strength still remains, the good effects of small and repeated bleedings are often strikingly displayed, by their relieving all the most distressing feelings of the patient, inducing quiet sleep, and restoring appetite if lost. And I may further add, that if the disease admits of a cure, as undoubtedly is sometimes, though rarely the case, it is most likely to be accomplished by such means; and this I have seen in different instances. I consider it, however, to be essential to the success of this mode of treating *pulmonary consumption*, whether undertaken with a palliative or curative intention, that the patient should be allowed to take food, either animal or vegetable, as his habits or inclinations may lead him. And it is no small recommendation of this practice, that not only is appetite usually excited by such small bleedings, but animal food may then be taken without producing that feverish excitement that it is otherwise apt to do." 99.

Not being able to speak experimentally to this practice of drawing blood from the arm, and supplying it by means of animal food, we shall leave it to the discretion and judgment of our readers. Dr. C. when the greater part of his work was printed off, fell in with the "Elements of Medicine," by Drs. Bright and Addison. He congratulates himself on the similarity—almost identity of doctrine, as respects fever, adopted by all three. For our own parts we cannot see this identity, or even close similarity; and we think our readers will be of the same opinion when they peruse the following conclusions to which Drs. Bright and Addison have come.

1st. "In every case of fever," the authors observe, "the causes producing it inflict a morbid impression upon the *nervous system*, by which the functions of that system, intellectual and bodily, are deranged, that derangement differing in degree in different cases: and in consequence of this derangement, every organ and every function of the body, appears to be more or less disordered."

2dly. "In every idiopathic fever, this morbid condition of the *nervous system* is associated with, or presently succeeded by, a deranged or excited state of the circulation; this derangement of the circulation differing in degree in different cases, and displaying a greater or less tendency to congestion, or even inflammation, of particular parts:" and,

3dly. "In the progress of every *idiopathic* fever, the secretions or excretions of the body become deficient, vitiated, or even irritating to the parts with which they come in contact."* 115.

We appeal to our readers whether this is not the doctrine we have held for more than twenty years past. So far from fever, (idiopathic) being the *consequence* of local inflammation, these gentlemen maintain that the general fever or excitement "displays a greater or less *tendency* to congestion, or even inflammation of *particular parts*"—or in other words, that the topical inflammations are the consequences, not the *causes* of the fever. This *Hibernian* coincidence between Dr. Clutterbuck and the authors alluded to, has given Dr. C. sincere gratification, and we should be very sorry to disturb the *harmony* that exists between the parties.

Having now then touched on the chief points of interest in the work, and also on the debateable topics scattered through it, we take leave of our author with the greatest respect for his talents, his zeal, and his unwearied industry in the prosecution of medical science in general, and this important path of investigation in particular.

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* Elements of Medicine.

PHILOSOPHY OF LIVING. By MR. MAYO and DR. TICKNER.

WE have now two works on the "Philosophy of Living," and there appears a fair opening for a treatise on the "Philosophy of Dying." None of us are certain of life—all of us are sure to die. The last act of the drama must necessarily be tragical—and it is most important of all! We therefore hold out this tempting opportunity for some of our sage philosophers to immortalize themselves by a treatise, not like Sherlock's, "on DEATH;" but on dying—with the greatest degree of philosophy, propriety, and comfort. There is no danger of any snarling critic coming back upon the author with the posing dicta of *experience* in his mouth, to contravene the dogmas which the author may have laid down respecting the last dropping of the curtain. With whatever degree of patience the author may be listened to by the living, he is safe from all reflections by those who have put his precepts to the test of practice! But we must return to the Philosophy of Living. In our last number we took occasion to controvert some of Mr. Mayo's positions in respect to the state of the brain in sleep, epilepsy, and apoplexy. At present we are more in the commendatory mood, and mean to notice some good observations which Mr. M. has made on curvatures of the spine. He sets out, however, with a rather startling assertion.

"There is but *one disease* to which female children are liable, and that is Education; as soon as the age arrives at which they are to be artificially trained to feminineness of mind and manners and accomplishments, their strength and health are endangered. While boys are encouraged to pursue sports of increasing exertion, their sisters, whose bodily strength not keeping pace with theirs, nevertheless *requires exercise equal in proportion* for its maintenance, are forbidden all that they need."

Although the female youth is liable to the diseases of male youth, yet certainly education brings with it a host of maladies—or at least disorders. Amongst others, weakness of the spine.

"The first feature in the inquiry, which presents itself, is the almost uniform elevation and fulness of the *right shoulder and right side of the chest*, which accompanies curvature of the spine. Why this feature is not universal will be subsequently explained. But for the present let us attend to the fact of its remarkable frequency.

The principle, to which this will be traced, is thus expressed by Donald Walker,—'*The one-sidedness with which almost all the acts of life are performed, is the general cause of the greatest and most universal deformity*, and its prevention requires an equal and similar use of the other side.' Hitherto, however, the connexion between the general fact, and the common feature of spinal curvature has not been shown.

M. Coulson, in a recent work upon this subject, animadverts upon the views propounded by the late Mr. Shaw.

'In consequence,' says Mr. Shaw, 'of the alteration in the state of the shoulders being the first symptom of deformity observed, it is generally but erroneously supposed that the dorsal part of the spine is the first distorted. Indeed those who have lately written on this subject have fallen into this error, and have described the curve at the loins as the last which is formed.

In cases of diseased vertebræ there may be a curve only between the shoulders, but it invariably happens in the common lateral curvature, that where one shoulder is protruded, there is also a curve at the loins; and I have shown by diagrams in the preceding volume that this curve is not only the first formed, but that those in the upper part of the spine are consequent upon it.'

Mr. Coulson observes upon these passages, that those who describe the curvature in the loins as the last which is formed, 'are right, thought they did not clearly see the cause,' and adds, that Mr. Shaw's practical observations tended, 'in spite of his hypothesis, to prove that the first curve is formed at the right shoulder.'

It is evident, therefore, that while Mr. Shaw attributed the initial curve *to the loins*, Mr. Coulson is disposed to look for it *in the back and shoulder*. The letter writer, however, puts forward, with a full general conception of its importance, the principle already quoted,—the general influence of the rightsidedness of our habits upon curvature of the back.

But neither Mr. Shaw's nor Mr. Coulson's ideas are strictly just. *The two curvatures are not successive, but necessarily simultaneous;* neither has priority; in health and strength both of these curvatures, producing serpentine flexure of the spine, continually occur, and disappear with the next change of posture. In the weak, they become permanent, and are progressively aggravated.

To trace the mischief in its progress;—

The steps by which the spine ordinarily gives way are these. The child kept at its music-stool, or books, or drawing, has a weakened and aching back. The muscles of the spine have not been invigorated by the sportive exertions, and the various changes of attitude, which nature dictates. Wearied by its task, the next change is to stand listlessly beside its governess, or in a drawing-room. What is the posture which it assumes? It is of course that which gives greatest ease to the languid muscles. The child stands with its weight supported upon one leg, the body swayed to that side, the knee of the other side bent, and the hip lowered. The limb which it uses on this occasion for support is almost always the *right* limb; for this simple reason, that it is the strongest. And the child assumes the position at all times, because it is one of change from its former more rigid position, and because, in addition, the fascial structure of the limb takes off, in that posture, some of the strain from the muscles." 127.

We shall pass over many physiological arguments in order to make room for a short extract on the remedial agents.

"1. In the first place, a child should be broken of the habit of standing on one leg in preference to the other. It should be made to stand on both alternately. Mr. Jenkins, whose ingenious instructions have been of so much use to the youth of the last five-and-twenty years, observed to me that there was one sure receipt for producing crookedness: 'For this purpose,' he remarked, 'a child should bolt its food, and habitually stand on one leg:'—the evils proceeding from the mischievous combination of bad digestion with faulty habits of posture, are well conveyed in this apophthegm.

2. All other postures are to be avoided which tend to give predominance or inclination to one side.

3. Exercises which promote the strength of the back should be systematically employed; exercises, however, in which the limbs are not weighted, but which consist in the assumption of a succession of attitude. Much natural grace, and ease of posture and gesture, are collaterally obtained by such practices, when judiciously selected. To mention one that is highly useful;—suppose the child to stand with its feet together, and with its face turned against the low end of a sofa the level of which reaches some way above its knees; let it then raise its hands to meet above its head, and bring them down to the horizontal line of its face; and then let it bend the body forward till the hands touch the sofa, and rise again and repeat the exercise several times in succession.

4. The dress of a girl should not bind her chest, but should be, in fact, as light and incompressive as that of a boy, and as much indulgence in play and sportive amusement allowed, as may be consistent with the habits it is right to encourage.

5. In sitting, when already tired, the child should rest well back on her chair, the spine resting against the back of the chair, thoroughly supported by it, and

the seat of the chair reaching to the bend of the knees. Her feet should be equally supported.

Such are the precautions necessary to be observed against spinal curvature; and they are sufficient to prevent it. To remove it entirely, when it exists to any great extent, is impossible; to remedy it in part during growth always practicable; to obliterate it at its commencement, not less so." 132.

MEDICAL SCIENCE AND ETHICS: AN INTRODUCTORY LECTURE DELIVERED AT THE BRISTOL MEDICAL SCHOOL. By *W. O. Porter*, M. D.

THIS is an eloquent address, and somewhat out of the usual routine, as it inculcates, with more than common zeal, the "HIGH TONE OF MORAL FEELING," which has been presumptuously claimed by one class (a very small one) in the profession, and unmercifully ridiculed by others. There is also a large vein of *religious* feeling pervading this address—and which, indeed, seems to be gaining ground, of late, in medical writings, as compared with those which issued from the press, 20, 30, or 40 years ago. Since the days of Darwin, medical men have been *suspected* of a tendency to scepticism, though, in our humble opinion, the suspicion was unfounded, and the direct charges grafted on it most false. The charge was made by two classes of society—embracing no small range—Fanatics and Hypocrites. The former class were, no doubt, sincere in their denunciations, though narrow-minded and tyrannical in their attempts to thrust their creeds down the throats of their neighbours. But the Hypocrites were far more detestable; for while the greater number of them were themselves scoffers at religion, they raised the hue and cry against their neighbours for no other reason, and from no other motives than self-interest; and a wish to raise their own reputation for sanctity on the depreciation of others. We sincerely hope that the tone of moral and religious feeling is rising, as Dr. Porter believes, in the ranks of the medical profession; but the augmenting pressure of redundancy in those ranks is not calculated to increase but to obstruct such wished for tendencies. However, as the scale of general as well as professional education is annually rising in kind as well as in amount, we anticipate much advantage from this important circumstance. Dr. Porter justly observes, that—"At this day no small proficiency is required to gain admission fairly into the profession; there is at least as much required of the general practitioner at Apothecaries' Hall at this time, as might have qualified the graduate in medicine, thirty years ago. This is honourable to the profession—it must exclude the idle and the stupid. Such will not venture into the arena."

But when, by industry and application the aspirant has passed the ordeal of Halls, Universities and Colleges, and goes forth into life with his well-earned certificates and diplomas, "he will find that he has giants in zeal and knowledge to contend with for public favour, not only in the Metropolis, but even in villages, and almost in every spot where he can plant his foot. This is a comfortable reflection, but it is one into which most people will fall, when they emerge from the schools and mix with the tide of practice and competition. The fact is, that many are daily quitting the ranks of the medical profession, from sheer inability to succeed, however hard they may have studied, however diligently they may have looked out for employment afterwards.

As we have often before remarked, there is no *cure* for the evil at all—and the only plan of *mitigating* it, is to enlarge the curriculum of education, general and professional, and also the time during which the curriculum is working. It is worse than useless to make the *amount* of knowledge very high, and leave the period of acquirement short or optional. If it be short, it is impossible to acquire the necessary knowledge *well*. The soil will be forced, or *crammed* with bad manure that will unfit it for future crops.' If the period be left *optional*, it will be still worse; for then the system of *cramming* will become all but universal, and health will be ruined by the tremendous efforts to acquire the *necessary* knowledge in the shortest possible space of time. No theory was ever more erroneous, or more injurious to society and the profession, than that which would make the *examination* the whole test of elementary education. In the languages, in mathematics, and in some of the exact sciences, this tentamen might suffice; but in medicine the mode and the time of acquiring knowledge are often more important than the mere amount that may be compressed by artificial engines into the human memory.

There are a great number of excellent hints and judicious observations in Dr. Porter's address, and we recommend it to the especial notice of the Student in Medicine.

TREATMENT OF CHOLERA.

ALTHOUGH the reappearance of some cases of malignant cholera in Limehouse and on board the Dreadnought has been trumpetted forth by the alarmists, the expected choleraphobia has not resulted. Sporadic cases have occurred every year since 1832, (and we believe long before that period,) but the *epidemic* character of the disease has gradually subsided, and we are still of opinion that it will no more take root and become indigenous than any other *epidemic*. The influenza has never left us since 1833, and is, even now (Nov. 1837,) more rife than the cholera ever was. As to contagion, the influenza exhibits the very same kind of evidence, on that point, as cholera did and does. It begins with some one member of a family, and some or all of that family become consecutively affected. This was the main argument of the contagionists, and why they did not apply it to the influenza, we cannot tell. Again, the epidemic influenzas almost invariably *travel* from east to west, the same as cholera. The influenza occasionally takes a lateral, diagonal, or even retrograde direction. So does cholera, witness its spread in Italy, after leaving Europe, and crossing the Atlantic to America. The cry is still—prepare for Cholera—take precautions to prevent its spreading! What precautions have ever prevented the diffusion of this or any other epidemic? None! All the precautions and barriers that have been employed, have invariably increased the evil by diffusing alarm and terror, the most powerful predisposing causes of cholera. We veribly believe that had there never been instituted a Cholera Board of Health or a Cholera Hospital; and had a certain number of medical men been appointed to attend the poor in their own houses, and *there* supply them with food, medicines, and nutriment, there would have been infinitely less mortality in this and other countries, than under the systems that were put in force.

The more we saw of cholera, the more we were convinced that it was a serous hæmorrhage from the bowels, which, after a certain or uncertain time, left the remaining blood unfitted for free circulation and the support of life—and then came the collapse, the spasms, the deadly coldness, the cessation of the pulse at the wrists, and death itself. We have heard of cholera proving fatal, without any discharge upwards or downwards. We never saw such a case,—we do not believe that such a case ever occurred. The diarrhœa serosa or cholerica, is the disease in its first or curable stage. When the blood is left black and thick by the draining away of its serum, there is small hope of recovery.

Now, whoever has had much experience in the treatment of bowel complaints, whether in hot or in cold climates, must be well aware of the great importance of quietude, the horizontal posture, and the warmth of the bed. Attention to these points alone, with proper diet, would cure nine-tenths of the common bowel-complaints of this country, and even of the premonitory diarrhœa of cholera. If this be a correct representation, and we maintain that it is, how injurious must have been that system which dragged the unfortunate poor from their homes to cholera hospitals, under the influence of terror, exposed to cold—and what was as bad or worse, to the jolting and motions of a hackney-coach, which inevitably increased the diarrhœa, and, no doubt, precipitated the state of collapse. All this was done under the false theory that the epidemic was a dire contagion, worse than the plague of the East! Should the epidemic revisit this Metropolis, we would propose a simple, and we believe an efficient plan for checking its ravages amongst the POOR—for the rich will take care of themselves. It is this: let each parish engage one, two, or three medical men to visit the habitations of the poor, so as to detect the premonitory diarrhœa, and prescribe for the patients at their own houses—the prescriptions to be procured at the nearest chemists in order to save time, the signature of the medical attendant being a voucher for payment by the parish. The same voucher might also serve for any article or wholesome nourishment procured from the nearest source of supply. The whole expense, on this plan, would be very trifling; and we are perfectly satisfied that it would prove more efficient than all the sums lavished on Cholera Hospitals, fumigations, and the other parts of the machinery put in motion upon epidemic visitations. It may be objected that there will still be a certain portion of the poor so completely destitute as to require removal from their hovels to some asylum. It was a disgrace to England, and to the Governors of Hospitals, in this country, to see their gates shut against cholera patients, while the same institutions were thrown open on the Continent. The unmanly fear of *contagion* brought this, among numerous other evils in its train! And after all, this ignoble precaution completely failed in its object, for the epidemic leaped over the petty and panic-stricken barriers of our hospitals, and laughed to scorn the foolish foundation on which they were built. It is to be hoped that a better regime will be adopted should the enemy ever again knock at our gates.

In respect to the treatment, we may again observe that the premonitory diarrhœa is best checked by confinement to bed, external warmth, perfect quietude, and *starvation*. We have seldom found much difficulty in stopping the diarrhœa, when the case was recent, and the blood not too far deprived of its serous constituents—and that by opiates, cordials, and the common astringents. Dr. Graves, of Dublin, has, however, published a paper on the internal use of acetate of lead and opium, which, in his experience produced the most beneficial effects. We certainly have used this astringent, amongst others, but not with the marked superiority which attended its administration in the hands of Dr. Graves. We give, however, his formula:—

"During the preceding months of May and June, I had treated several cases of diarrhœa in fever with large doses of the acetate of lead, according to Dr. Bardsley's plan, and I had had frequent opportunities of admiring the efficacy of this salt in checking profuse alvine discharges. Just as Mr. Ryan died, and while my mind was filled with regret at our failure in his case, I was called by Dr. Percival Hunt to see a lady in Nassau-street, labouring under dysentery; I advised the free use of acetate of lead, and with marked success. Immediately after, I saw a case of cholera still in the stage of premonitory diarrhœa, or rather just passing from the bowel complaint into the fully formed disease. I tried the acetate of lead boldly, and with the happiest success. Thus encouraged, I applied this new method of treatment in every case to which I was called, and I was employed both night and day in visiting cholera patients, and every hour gave me additional proofs of the efficacy of the remedy. My formula was as follows:—

℞ Acetatis Plumbi, ℈j.; Opii., gr. j, M. fiat secundum artem massa in pilul. xii. dividenda.

The premonitory diarrhœa has almost invariably stopped by taking one of these pills, at first every hour, and as the stools became less frequent, every third or sixth hour, according to circumstances. When the vomiting, spasms, and the state of collapse had begun, it was necessary to give a pill every quarter of an hour: after a couple of hours the effect of the pills became perceptible, in a diminution of the serous evacuations upwards and downwards; then the pills were given only every hour, and as the symptoms yielded they were given less and less frequently, and could in general be laid aside altogether before twenty-four hours. In some it was found necessary to give the acetate of lead in solution, combined with a little vinegar and minute doses of acetate of morphia. Minute doses of opium were useful; anything of large doses hurtful. Mr. Parr, the able and respected apothecary of the Meath Hospital, was saved by acetate of lead, after the usual astringents, combined with large doses of opium, had been fully tried. He was found by me to be sensibly under the narcotic influence of opium, but the peculiar symptoms of cholera had not been thereby checked. Many took more than forty grains of the acetate of lead in twenty-four hours; it usually darkened, or even blackened, the alvine discharges, before they ceased altogether. Were I to enumerate all the cases of violent cholera that yielded to this treatment, I would be led into a tedious but not an uninstructive detail."—*Medical Gazette.*

Since the publication of Dr. Grave's paper, Dr. Venables has stated that the salts of lead were tried on a large scale by him, at the suggestion of the late Sir D. Barry, and failed. We have no doubt that all remedies will fail if not early employed, and with the auxiliaries which we have pointed out. If the auxiliaries are promptly employed, in conjunction with *remedies*, these last will be found amongst those in ordinary use.

P. S.—Since the above was written, we have received a paper from Mr. John Paterson, of Aberdeen, respecting the epidemic cholera, as it occurred there and at Colleston, a fishing-village near that place. We are unable to spare space for Mr. P.'s paper, but may state that he derived great benefit from venesection in the early stages of the cholera. He describes the destructive effects of the panic occasioned by the doctrine of contagion. When he went, by orders of the BOARD OF HEALTH, to Colleston, he found all work suspended—"the villagers being prevented by the *public authorities*, from entering the neighbouring towns with their fish for sale!" These were some of the blessed effects of the contagion doctrine, and of BOARDS OF HEALTH. Mr. P. endeavoured to dissipate the fears of the people, and had well nigh succeeded, "had not his exertions been met by the troublesome, and, he firmly believes, useless enactments of the BOARD OF HEALTH." "*Useless*" indeed! They were every were highly *injurious.* The only good they ever did, was in the character of scavengers—and for one life saved by carrying away filth, ten were sacrificed by the terror of contagion, and the misery and want produced by the cessation of intercourse and occupation! May we never live to see another Cholera Board.

CHANGES PRODUCED IN THE NERVOUS SYSTEM BY CIVILIZATION, &c., &c.

By *Robert Verity*, M. D.

THE marrow of this little work, which is rather an introduction than a finished essay, may be contained in a very short compass. The principle which Dr. Verity elaborates, has long been acknowledged. It is this—that whatever structure or function, in the human body, is called into greater activity than other structures or functions, there will be a corresponding acquisition of power in the former. Thus the arm of the gold-beater is seen to be stronger, in proportion, than his leg—and the same is evident in the coachman, because these people exercise the upper much more than the lower extremities. The *eye* of the watchmaker sees and detects minute objects much more keenly than that of the musician, whose *ear* is far more sensitive to sounds than that of the watchmaker. The tongue of the cook or gastronome, has a better sense of taste, than that of the sailor or soldier. The same principle is seen in the intellectual functions. The poet who has toiled for years in his garret or closet, would ill support the tremendous burthens of the coal heaver, and the *latter* would experience no small difficulty in constructing an epic poem. This principle might be extended to almost any length—and from the body it may be transferred to the mind—from the physique to the morale.

Our author appears to anticipate a regularly increasing *perfectibility* in the human race, by the steady advance of intellectual activity. We much doubt whether this anticipation is supported by the "philosophy of history," or even by the "evidence of physiology." It is very true that the *Press*, and the diffusion of knowledge may, and probably will, prevent the *dark ages* from ever returning; but there are many sources of national decay which literature, science, and intellectual activity may be unable to control. Dr. Verity must know that excess in intellectual exertions, like inordinate corporeal labour, has a strong tendency to wear out the organ of the mind, and the mind itself. There requires no great research for numerous examples of this. Intellectual excitement may be pushed beyond the salutary point in nations as well as individuals, and premature decay may be the consequence. The following is all very fine upon paper.

"It has never been found in history, that it was difficult for the animal powers to become less and more mitigated in their expression, but the difficulty has been for the higher powers to become developed equal to the sustainment of continuous civilization. It is not enough to let the former be effaced by inaction, to die of an atrophy, but their activity must be replaced by positive development of intelligence, by something pregnant with prospective advancement.—But the last northern migrations, which took place in the first centuries of the Christian era, from their magnitude and duration, and the form and complexion they have impressed on our European world, demand a more marked attention, as well as a more detailed analysis of the physiological development of the kind of society into which they settled down. Such seems the advance and position of human affairs at present, that, perhaps, it may emphatically be said, these northern migrations are, indeed, to be the last. It is difficult to contemplate an historical spectacle of more grandeur and importance than the movement of so many races and nations adventurously precipitating themselves upon the entire face of the old civilized world—careering to and fro all around the circuit of the Mediterranean shores, as if fetched out of unknown regions, and guided by an Almighty hand, to accomplish a salutary, settled purpose in the destinies of mankind. For upon this great event the fortunes of the human race have turned. It was the collision and intermixture, one with the other, of the many and various elemental powers of human society, qualities of blood and of character, languages and institutions, which subsequently gave birth to new and more vigorous forms of social life. For, from this transfusion of so many native and untainted elements into the languishing and dying current of Roman civilization, cemented together and controlled by the commingling influence of the Christian principles, was formed the general European stock, which has divided itself into the different nations of modern times, having, however, from the similar circumstances of their origin, many characteristics in common. It was an amalgamation of that astute, selfish, and indomitable will of the old Roman—that practised and well balanced understanding in political matters, with the rich intellectual freshness and more generous and loftier moral energy peculiar to the Teutonic and Scandinavian races; and, in a physiological point of view, we must never forget that these distinctive classes of qualities, with many others arising from greatly different organic temperaments, were equally reflected in the tissues and structures of the physical body. Where the admixture partook more fairly of the different elements, the fusion has taken place more rapidly and with more thorough effect; the fermentation and final adsettlement (so to speak) was sooner completed, and there has been evolved from the inward and amalgamating action, a more perfect and compact unity of national character; and it will be found that the political and domestic institutions of a nation, as it approached this type, will have become the sooner mature, vigorous, and progressive."

Nations may, and no doubt will, advance far beyond the present point of intellectual activity and capacity; but we much doubt whether the acmé of mental improvement will prove a complete check to various causes of degeneration and decay. Look at France in the revolution, when she presented a scene that threatened national extermination! Look at Spain now—three centuries more barbarous than in the days of Cervantes!

As for the physiological progression towards perfection, we apprehend that the argument founded on the increase of longevity in modern times, is fallacious. Our organization is not a bit *more* perfect now than it was two centuries ago—we think it is not so robust. Our diseases have not decreased in number, but they have in intensity; and we have learned to treat them more skilfully, and prevent them more effectually. Yet still the increase of longevity is to be chiefly traced to the withdrawal of numerous causes of disease—to more cleanliness and comfort—to more temperate habits—to cultivation and draining of the soil, and to a thousand other points of Hygiene, which were imperfect amongst our forefathers. In former times, fevers, small-pox, agues, and various acute diseases carried off thousands, where they now only destroy hundreds; whereas, in modern times, we have hosts of nervous and dyspeptic affections that do not perhaps materially shorten the natural range of human existence, while they render life very miserable. But we need not pursue the subject farther, as Dr. Verity has promised a work in which the principles here slightly developed will be applied to medical science directly. If Dr. Verity would not be offended by our freedom, we would advise him to involve or clothe his ideas in a much smaller number of words. It is by no means easy to make out Dr. Verity's meaning upon all occasions; and no fault is more dangerous, in an unpractised author, than a diffuse style, which, like too great a dilution of wine with water, destroys at once the flavour and the relish.

A Treatise on the Influenza of 1837, as observed at Birmingham. By *Peyton Blakiston*, M. A. Med. Lic. Cantab. 8vo. pp. 60. Birmingham, October, 1837.

The author attended about 200 cases, chiefly belonging to a public institution, and has here given an analytical or clinical report of 100. The labour of observing and recording them must have been very considerable, perhaps more than was necessary, for less than half the number would have illustrated the epidemic quite as well as the centenary of cases. Dr. B. has not "travelled from his record" by adverting to the peculiarities of preceding or accompanying seasons, nor by instituting comparisons between the epidemic of 1817 and those of other years. These tasks he leaves to others. The author throws these cases into three sections; first, containing cases as types of the disease in persons previously healthy; secondly, cases of influenza modified by pre-existing disease; third, a general analysis of symptoms and treatment. It is only from the third section that we shall extract any materials for this short article.

1. *Age.*—Although no age was exempt from the epidemic, yet the largest proportion of cases occurred between 20 and 50 years of age—that is, in the

prime of life. This coincides with the experience of Louis and Andral in respect of fevers generally.

2. *Diet* seemed to have nothing to do with the predisposing causes.

3. *Locality.*—By far the greater number of patients had been resident in Birmingham for years. The houses of the patients were, generally, wholesome and well ventilated. The site of the town is elevated, and its surface very irregular, so that it is well drained. It is, however, cold, and bronchial irritation is prevalent. Our author could trace no connexion between the locality and the disease.

4. *Habits.*—Thirty cases occurred among the wealthier classes, and 70 among the humbler, so that people of all intermediate ranks were included. The author was not able to discover any modification of the disease from variety of habit, manners, or avocations.

4. *Cantagion.*—On this point our author has not been able to make up his mind, and therefore, "has no opinion to offer on the subject."

STATE OF THE DIFFERENT ORGANS.

As no dissections were obtained, Dr. B. cannot, of course, offer any pathological phenomena, excepting such as may be inferred from symptomatology. There was no fatal case, except where the influenza was complicated with some other disease.

Pharynx.—In a large majority of cases, there was redness of the fauces and tonsils. *Tongue.* In some, even of those who died, the tongue presented no abnormal appearance. In 45 cases, however, it was covered with white, in 39 with a soft yellow fur. *Nausea or vomiting* occurred in almost every case. In many, bile was ejected. *Loss of appetite* was almost universal. In 60 cases out of 100 there was no *thirst.* In the others, it existed more or less. In 70 cases the bowels were confined. In 26 cases the bowels were natural. In four they were disordered. The *urine*, in a great many cases, was thick, as in common catarrh. In respect to the action and sounds of the *heart*, none were abnormal unless they had been so previously. The *pulse* in a great majority of cases, was small, feeble, and sharp at the onset—soon becoming soft, and continuing feeble for a long time. In the majority of cases it did not exceed 100 in the minute. When the pulse was above 80, the skin was dry and more or less hot. In some weakly patients there was a constant sensation of chilliness. In 40 cases there was no increase of temperature. *Cough* existed in all cases, shewing itself from the first till the seventh day. In all cases it was violent for at least two days; in many cases it was prolonged for some weeks, assuming a convulsive character. *Expectoration.* When this became copious and easy, the pain and uneasiness of the cough were much diminished. When the patients were in health previously to the attack, the expectoration was clear mucus; when the mucous râle existed, it was very viscous. In those who were the subjects of chronic catarrh, the expectoration was muco-purulent. Most patients felt a dull pain under the sternum upon coughing, and many complained of constriction across the chest. The chest sounded clear on percussion, in every case where no pneumonia or asthma was combined with the influenza. Respiration was also clear and vesicular. In 75 cases, no râle was audible; in three cases, slightly sibilous and sonorous; in 18 cases, these râles were well-marked. There were symptoms of derangement of the nervous system in all cases, varying from a slight headache, lassitude, giddiness, &c., to excessive headache, great prostration of strength, and occasional delirium.

Treatment.—In simple cases the treatment was very inert. The symptoms were watched, and the functional derangements of each organ ameliorated by mild means. When congestion or inflammatory action of the mucous membrane of the lungs was rendered obvious, blisters, sinapisms, or even leeches, were employed; as also the ætherial tincture of lobelia inflata combined with ipecacuan wine, and occasionally with soda.

The following are the conclusions to which our author comes from a careful statistical analysis of 100 cases, besides a general observation of many others.

"1. The influenza, as observed at Birmingham, is an affection of the nervous system, with its concomitant derangements in the organs of digestion, circulation, &c., commonly known under the name of *nervous fever;* accompanied, *throughout its whole course*, by irritation of the pulmonary mucous membrane.

2. This irritation, not unfrequently, amounted to congestion, and even to inflammation.

3. The influenza was modified by pre-existing disease, more particularly by chronic bronchitis, the subjects of which were rendered liable to the acute form of that disease.

4. Neither locality, previous habits, or diet, acted as predisposing causes.

5. In simple, uncomplicated cases, mild treatment alone was sufficient.

6. When bronchitis was present, counter-irritation, and large doses of ætherial tincture of lobelia, repeated at short intervals, seemed useful.

7. Venesection was always counter-indicated.

8. It was often necessary to have recourse to diffusible stimulants, at the commencement of the complaint, and to administer tonic medicines in an early stage of it.

9. It only proved fatal in those cases where the persons it attacked had been enfeebled by old age or chronic disease."

As there is scarcely a disease or disorder the causes of which do not make their first impression on the *nervous* system, so Dr. Blakiston may be justified in terming the epidemic influenza a *nervous* disease. Indeed it must be acknowledged that the epidemic visitations of this malady have always been remarkably characterized by depression and derangement of the nervous system, as contradistinguished from purely inflammatory affections of the respiratory apparatus. We think that our author is entitled to the thanks of his brethren for this accurate and minute statistical analysis of the various phenomena exhibited in the different organs and functions during the course of influenza.

THE FLORA OF JAMAICA, OR A DESCRIPTION OF THE PLANTS OF THAT ISLAND

By *James Macfayden*, M. D.

THIS is really a most praiseworthy production, and reflects very high credit on the talents and industry of Dr. Macfayden. The present volume contains a minute botanical description of the plants of Jamaica, arranged in the various natural orders, from the Ranunculaceæ to the Leguminosæ; and to each description are appended valuable remarks on the general properties, uses, and natural history of the plants. We are promised the second volume in the course of the present year, and a series of illustrations of such plants as are new or may not have been previously figured.

When completed, the work will be a most useful compendium to the medical practitioner who visits Jamaica, or indeed any other tropical climate, and to such we very strongly recommend it. For the purpose of facilitating the pursuit of the less practised botanist in discovering any particular plant, there will be an appendix in the second volume, containing an enumeration of the genera according to the Linnæan or artificial system, and also an essay on the geographical distribution of the species. Dr. Macfayden tells us that the work has occupied a great portion of his leisure during the residence of twelve years in the island.

"I have carefully," says he, "examined the characters of every plant within my reach, and compared my own descriptions with those of preceding botanists. I have visited a considerable portion of the island, so that I have had opportunities of studying the peculiarities of the flora of each district. The nature also of my occupation, as a medical practitioner, has been of some advantage, as, in my almost daily rides, I have had an opportunity of watching each plant during its period of flowering and perfecting its fruit."

As a sample of the contents of the work, we select the description of the plant which yields a cocoa or chocolate nut.

"THEOBROMA.—Calyx of 5 sepals; petals 5, fornicate; nectary urceolate, with 5 horns; filaments 5, each with 2 anthers; style filiform; stigma 5-parted; capsule 5-celled without valves; seeds in a buttery pulp; albumen 0; cotyledons thick, oily, corrugated.

Theobroma Cacao. *Chocolate Nut.*—Leaves entire, smooth, ovate, oblong, acuminate.

Hab.—Cultivated.

Fl.—Throughout the year.

[Then are enumerated the various synonymes.]

This is a tree of moderate height (12 to 16 feet): the trunk upright; the bark brownish; and the wood light and porous. Leaves rather large, lanceolate. Flowers small, reddish, inodorous, numerous, scattered over the trunk and branches. The fruit is a coriaceous capsule, partaking somewhat of the form of a cucumber, reddish, and marked with 10 grooves externally; internally there are 5 compartments, filled with a gelatinous acid pulp, enveloping the seeds. When ripe, the external surface is either a deep red or a yellow, and the seeds rattle in the capsule. The tree bears leaves, flowers, and fruit throughout the year. The usual seasons, however, for gathering the fruit are the months of June and December. The seeds are 20 to 30 in number; when fresh, they are of a reddish brown colour. They quickly lose their power of vegetation, if taken out of the capsule; but, if kept in it, they preserve it for a considerable time."

Appended is a good account of the natural and commercial history of the tree and of its seeds; of the mode of preparing chocolate; and of some interesting particulars respecting the use of this substance as an article of diet.

Remarks on the Treatment of Fractures of the Lower Extremities without the Aid of Splints. With Cases. By *John F. Burke*, Member of the Royal College of Surgeons. 8vo. stitched, pp. 39. London, 1827.

Mr. Burke is a strong admirer of Mr. Radley, which we are not. He dedicates this pamphlet to him, and offers it as a proof that, indifferent as the profession has been to the discoveries of the great "anti-splinter," he, at all events, appreciates them.

"Although," says Mr. Burke, enthusiastically to Mr. Radley, "upwards of two years have elaped without producing any visible proof that other surgeons have adopted your views, yet let us hope that your endeavours to do away with the old system of tormenting fractures, have been silently and surely working their proper effect in more quarters than one; and that the period is not far distant when your zeal for the advancement of Surgery shall meet with a better tribute than is here offered you by—Your very obedient Servant,

JOHN F. BURKE."

When he descends from the warmth of dedication to the sober task of developing his views, Mr. Burke again deplores the Cimmerian gloom which would seem to have settled on Mr. Radley's doctrines.

"It is not a little surprising that, since the publication of Mr. Radley's remarks in 'The Lancet,' respecting his plan of treating fractures without the application of splints, the subject has been allowed to fall to the ground without further notice by members of the medical profession, except in the meetings of some medical debating societies, where, indeed, the theory has been occasionally discussed, but generally without the aid of practical information, which alone can test its merits. 5.

The surprise will be proportioned to the faith of the reader. If he has become a convert to the opinions and the practice of the hater of splints, of course he will be astonished that others have not grown converts too. But if made of incredulous stuff, and impervious to the new lights, he will feel no sort of surprise at all. This is just our case. Our readers need not be told that we are not proselytes of Mr. Radley's. The evidence he gave was not enough to satisfy us. We predicted at the time that the fate of all discoverers awaited that gentleman. He was doomed, we felt sure, to experience neglect from his generation. Even Galileo and Harvey were laughed at. How much more then must Mr. Radley be so. Two years have passed. A disciple of Mr. Radley's testifies to the indifference displayed towards him. Alas! the course of merit, like that of true love—"never does run smooth." Mr. Radley is too much a-head of his century. He has worked for posterity; we hope it will pay him.

We do not intend to rip up the case "Radley *versus* Splints." For it, and for the argument for plaintiff and defendant, we refer to the former number of this Journal, as well as to other periodicals. We shall now content ourselves with chronicling the views and exposing the doctrines of Mr. Burke.

"It must be allowed," says this Gentleman, "that the plan of curing fractures without the aid of splints is by no means new, inasmuch as we are daily in the habit of seeing fractures of the lower extremities laid in junks, without any splints whatever being previously put on them; and perhaps it may be argued that no better application than junks, contained within some soft substance, can be adopted for the purpose of retaining fractures of the lower extremities in their proper positions. Supposing, then, that this be granted, what do we concede, but that splints (properly so called) are unnecessary for keeping fractured bones in apposition? It is the very point to which Mr. Radley has attempted to draw the attention of surgeons; and having once done away with the idea of the *necessity* of using splints in the treatment of fractures, we shall have to consider whether their employment, so far from being requisite, be not, in many instances, absolutely hurtful, by exciting the action of the muscles of the limb to which they are applied, and by always proving, to a certain extent, galling to the feelings of the patient, and particularly so during the first week after the occurrence of fracture." 7.

Mr. Burke misapprehends the question, and consequently does not rightly put the argument. The point at issue is not whether the mere instrument called *splints* should be employed in the treatment of fractures, but whether *forcible extension* which splints are a common, but only one, mode of applying, should be had recourse to. Mr. Radley says forcible extension is injurious and unecessary—ninety-nine out of a hundred surgeons reply that, when properly unnderstood and used, it is neither injurious nor unnecessary. To the latter it is no argument to contend that junks are admitted to be useful. When a fractured leg is put up in junks, the limb is first forcibly extended until it is brought as nearly as possible to its natural form and length; then the junk is secured, and by *lateral compression* it retains the limb in the state to which it has been brought. This is a very different affair from laying a broken limb upon a pillow, and expecting that the muscles will behave themselves.

The cases related by Mr. Burke are two—one of fractured thigh *in a child*—the other of both bones of the leg, a little above the ankle. It must be admitted that such cases are not very conclusive. Fractures of the thigh in children are well known not to require much extension, and fractures of the leg a little above the ankle scarcely call for any. We may conceive that *such* cases, with moderate attention, may do pretty well on a pillow. Mr. Burke, indeed, observes, that:—

"I had subsequently several other cases of fracture of the lower extremities (which it is unnecessary to relate), all of which I treated in the same manner, and all of which did remarkably well, *without the slightest shortening or deformity of the limb.*"

But he gives no particulars on which we may ground an opinion.

Mr. Burke has been singularly fortunate or unfortunate in his observation of the results of the treatment by splints.

"We have only," says he, "to take notice of the numerous cases of fracture that are frequently to be met with, in which, after the ordinary treatment by splints, the ends of the fractured bones will be found riding upon each other, and encircled by an enormous callus, which must, in a great measure, impede the proper action of the muscles which pass over or are at all connected with it. It may possibly be asserted, that this is not in consequence of the application of splints, but of the restlessness of the patient; but, if this plea be again admitted, we have yet to consider how far this restlessness is induced by the pressure of splints, even supposing them to be productive of no other bad effect." 8.

Now the object of applying a splint or splints (and, if properly applied, they will fulfil that object) is to maintain apposition of the portions of bone, and rest. How this is to produce an enormous mass of callus we leave to physiologists—how it is to occasion restlessness on the patient's part we leave to casuists to determine. We give up both points. Nay, with some portion of experience, with a fair share of observation, we confess that, setting aside the explanation, we have not had the luck of noticing the facts. We have neither seen restlessness, riding of bones, nor masses of callus, result from splints at all. But, by a curious, infelicity, we have seen, or we fancy we have seen, all from the want of splints, or, what is practically almost the same thing, from their mal-application by ignorant people. But we will not argue the question further. We are unwilling to laugh—the mass of our readers might resent our being serious. We will content ourselves with simply stating the details of Mr. Burke's method, and then leave the anti-splint plan to its fate. We may say to it, as one of the Lake Poets said to one of the Lake Poems—

Go, little book, from this my solitude!
I cast thee on the waters; get thee forth!
And if, as I believe, thy tone be good,
The world will by-and-bye detect thy worth.

But to bring Mr. Burke's plan of proceeding under the notice of our readers.

"It now only remains for me to say a few words respecting the mode of placing a fractured limb on pillows, in order to preserve it in as quiet a state as possible. If the surgeon in attendance have a predilection for bandages, of course the many-tailed bandage must first be laid on the pillow; and, if previously wetted with the saturnine lotion, or any other that may be preferred, will be found to lie more neatly than if used in a dry state; besides which advantage, it will not afterwards shrink on the application of a lotion, and occasion more pressure than is requisite. The bandage having been properly applied, the pillow, which should be placed on a mattress, is to be drawn round the limb by tapes in the usual way, and these tapes subsequently fastened to either side of the bed, in order to obviate the chance of lateral motion. The pillow is then to be tacked firmly to the mattress in several points, indeed wherever there appears any possibility of its being moved; and if the feathers be firmly pressed together on either side of the limb before the tapes are tightened, a degree of support is afforded, which has all the advantages, without the galling unpleasantness, of splints. Indeed, those who have not tried this plan will, I am confident, be surprised at the resistance made by the pillow, even to a sound limb; and, be it remembered, a fractured one is not capable of much effort. A folded sheet or table-cloth may be laid neatly under the pillow at the bend of the knee, for the purpose of relaxing the muscles, in the same manner as when the inclined plane is used; and as the pillow should not meet over the leg, another folded cloth, saturated with some cooling lotion, should be loosely laid between its sides. Care should be taken that the pillow used be broad enough to rise sufficiently high above the limb to prevent any pressure from tapes or bandages, and also that it be long enough to project a little beyond the foot. A piece or two of tape, sewn on to each side of the pillow at its extremity, thus enables the surgeon to draw it round the foot instead of the foot-board commonly in use, and should the foot incline a little too much to one or the other side, a compress placed between it and the pillow immediately rectifies its position.

Where the femur is fractured, two pillows will be found necessary; and these, in order to render their surface perfectly smooth, should be united by a folded cloth of sufficient thickness, laid over them. Should a child be the subject of fracture, a good-sized bolster will be sufficient for all purposes."

ELEMENTS OF CHEMISTRY, INCLUDING THE RECENT DISCOVERIES AND DOCTRINES OF THE SCIENCE. By the late *Edward Turner*, M. D. Sixth Edition, enlarged and revised. By *Justice Liebig*, Professor of Chemistry in the University of Giessen; and *Wilton G. Turner*, 8vo., pp. 410. Taylor and Walton.

THE death of Dr. Turner has created a void in the great medical schools of London, which, even in such schools, is not easily supplied. Amiable as a man, eloquent as a teacher, and eminent as a chemist, he enjoyed not only extended fame, but his image was enshrined in the hearts of his pupils. Long may it live there, though its prototype is taken from them.

The Elements of Chemistry of Dr. Turner have been prized as a succinct and valuable *exposé* of the state of the science at the period of their publication. We say at the period of their publication, for chemistry is a science peculiarly progressive, and in the interval between two editions of a popular work, such advances may have been made as to render the later edition very different in many respects from its predecessor.

It is hardly necessary for us in the present instance to do more than quote the advertisement of the editors to the edition before us—the sixth—of the present work. That advertisement will explain the plan adopted by the publishers, and the alterations made and contemplated by the editors.

"The conduct of the work has been entrusted to Professor Liebig and Mr. Wilton G. Turner. The department of Inorganic Chemistry has been prepared by Mr. Turner. The description of the Imponderable Agents was left nearly ready for the press by the Author, and the only additions necessary were the insertion of a few recent discoveries. In the remainder of this section, the Editor has endeavoured to effect the improvements which he was aware had been contemplated by his brother. He has, consequently, treated of the Elements and their Compounds, under the three heads of History, Preparation, and Properties. An arrangement which, it is hoped, will not only increase the utility of the work as a book of reference, but will add to the clearness of its descriptions. The old chapter on Crystallography was formed on the views of Hauy; it has been re-written, to suit the present state of the science.

The department of Organic Chemistry requires to be entirely re-written, owing to the many new facts which have been discovered since the publication of the last edition. This Professor Liebig has kindly undertaken. In the volume about to be presented to the public will therefore be developed, for the first time, the views of this distinguished chemist on that department of the science to which he has devoted his particular attention. A departure from the mode of publication originally announced has consequently been occasioned. The work will now consist of Three Parts. Part II., containing the Metals and Salts, will be ready by the first week in November, and with Part I. will embrace that portion of the subject required for Lectures previous to April. Part III., consisting of Organic Chemistry, will be published early in 1838. In consequence of the arrangement adopted by Professor Liebig, it has become necessary to transfer to his section the description of several substances formerly treated under Inorganic Chemistry.

In a Preface by the Editors, which will accompany the Third Part will be given a more particular account of the changes adopted in this edition. An Appendix will be added, containing any discoveries that may have been made during the publication of the work."

We would only say, on parting, that we do not approve of this method of publishing works in parts. The public have smarted pretty severely from this ad captandum device, and we are much mistaken if publishers do not shortly find that it is grown musty, and will not take.

Of the work itself we can speak in high terms. It is the best manual of chemistry for a student which exists in our own tongue. We are in this only re-echoing the public decision. We recommend the present edition in the strongest terms to our readers.

THE BRITISH MEDICAL ALMANICK, 1838; WITH A SUPPLEMENT. Edited by *William Farr.* To be continued annually. 12mo., pp. 224. London, 1838. Price Three Shillings.

WE are glad to perceive that the "Almanack" has weathered the storm that wrecked the "Annals of Medicine." Mr. Farr is the editor of both, or, rather, *is* the editor of one and *was* the editor of the other.

We have only space at present to say a very few words. The present Almanack appears to us to have both the faults and the same merits as its predecessor. Its faults are—a dogmatic tone—a rather *queer* assortment of matter—confident opinions on subjects of medical policy which are in themselves debateable and debated. Its merits are—good arrangement—a large mass of useful information—and an exact spirit, highly conductive to the advance of knowledge. It would be unfair not to add that the merits preponderate vastly, and that the work is one which deserves encouragement. We recommend it to our readers.

CLINICAL REVIEW.

OUR readers need not be told that we are most anxious to encourage Clinical Reports. The insulated facts of medicine may be observed in private practice, and may be communicated by private practitioners. But the masses of facts, as well as the great generalizations, can only be seen, and consequently can only be recorded, in public institutions for the sick.

We have never ceased to urge the medical officers of these institutions, to report what occurs within their walls. Some have responded to our call. The majority have not. Amongst those who have thus distinguished themselves by their zeal, and we will add their talent, we must place in the first rank the medical officers of Guy's Hospital. Honour to the metropolitan school which takes the lead in so noble a race, as to endeavour to diffuse useful knowledge through the ranks of our profession.

Some of the officers of the country hospitals have also evinced a readiness to come forward. For the proof of this we appeal to our present mumber.

The Report from the Kent and Canterbury Hospital is most creditable to the enthusiasm and the ability of a gentleman we are proud to call our friend—Dr. M'Divett. That Report we have inserted at full, and we are glad to be able to announce that it is the precursor of more.

We have but brief space at present for remarks. We would earnestly advise our provincial brethren to publish, in some form or other, regular clinical reports. Some should be statistic—some not; or, rather, there should, in each, be a combination of the two methods—statistic and particular. The former should, in our opinion, be subordinate to the latter. The professed statisticians expect too much from the application of the numerical method to diseases. It will assist us no doubt—it will tend to enlarge our views—it will correct misapprehensions—it will check the vanity of some, expose the artifice of others, and offer the best refutation to the pretentions of nostrum-mongers and to the credulity of their dupes—but it never will teach us to understand or to treat disease, as simple observation and rational experiment do. We make this protest against the abuse of statistics, because we are inclined to think that some persons expect too much from them, and that, having been long neglected, they are now in danger of being misapplied, and of giving birth to exaggerated notions of imaginary benefit.

In the reports of individual cases we would suggest the avoidance of prolix and diurnal details. The reports adapted for the ward-book are not adapted for the public. The sphere of duties of a clinical clerk and of student is limited in a great degree to the narrow circle of one hospital. It is the merit of the former to relate each particular—of the latter to study it. But the professional reader of a journal has become acquainted with the mass of ordinary details, and with the effects of ordinary remedies, and neither time, nor inclination, nor utility will permit him to toil through tiresome specifications of what he knows must happen. There is perhaps no point more difficult to hit than the juste-milieu between extreme indulgence in generalities or in details—but that *juste-milieu* the reporter should endeavour to hit.

It cannot be expected that the medical officers of hospitals should encounter the expense and the hazard of distinct publications. Their circulation would be small, and their cost would be great. We freely open our own columns to such Reports as are calculated to advance knowledge, and, as a kind of encouragement to the Reporters, we will give them the advantage of distinct type and a conspicuous place.

KENT AND CANTERBURY HOSPITAL.

REPORT OF MEDICAL CASES TREATED AT THE KENT AND CANTERBURY HOSPITAL DURIRG THE YEAR 1836-7, by *John M'Divitt*, M. D. Physician to the Hospital.

THE acting Medical Staff of the Kent and Canterbury Hospital consists of two physicians, four surgeons, and a resident house-surgeon. Dr. Carter, the senior physician, having resigned, I was elected his successor on the 9th of April, 1836. On the 22nd of the same month I took charge of such patients admitted under my predecessor as still remained on the books. They were 32 in number: viz. 9 in-patients and 23 out patients.

Of the in-patients two were males, and 7 females, and their average residence in hospital had then amounted to 33 days nearly.

The out-patients consisted of 8 males and 15 females; and the average period of attendance had been 43 days.

From the date of my entering on office until the first of May, 1837* (being a period of little more than 12 months) I treated, exclusive of those already mentioned, 164 in—and 180 out-patients. In these numbers patients re-admitted for the same diseases are not reckoned twice, unless in cases where an interval of perfect health has existed between two distinct attacks.† Among the in-patients, there were only six re-admissions; and of these only one is counted twice. Nine out-patients were re-admitted; and of these four are reckoned twice, two as having remained in good health for a period of three months each after recovering from the first attack, and two as labouring the second time under different diseases. One of these last was admitted thrice, the second and third admissions being for a different disease from the first.

Fifteen out-patients admitted into hospital, and 40 in-patients made out, are numbered on the in-patient list only. In the case of the former, their average continuance as out-patients before admission into the wards had been 12 days. Of those "made out-patients" 12 still continue as such; the others attended as out-patients, for an average period of 42 days. To account for this prolonged attendance, it may be well to mention that I am in the habit of retaining the out-patient's names upon the books for a considerable period (often for three or four weeks) after their recovery has been established. This is done chiefly with a view to prevent, by keeping up the restraints of medical discipline, a speedy return to former pernicious habits, which is so common a cause of dangerous relapses, particularly among the lower classes of society.

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* In consequence of a resolution of the governors of the hospital to enlarge the building by the addition of a second wing; and to make, at the same time, extensive alterations in the centre; no in-patients were admitted after the 11th of April; and as only patients of one sex could be accommodated during the continuance of the works, all the females were discharged before the 1st of May, at which time I happened to have only two male patients under my care. This, therefore, has seemed the best date for concluding my annual report; and, for the sake of convenience, I have adopted the same period for the out—as for the in-patients.

† I mention this fact, because it has been usual in the Canterbury Hospital, as in most other hospitals, to reckon every re-admission of a patient "discharged for overtime" as a *new* admission—a practice which for obvious reasons ought not to prevail.

Of the in-patients, 62, and of the out-patients, 119, were from Canterbury or from some place within one mile of the hospital.

The out-patients were seen once a week;* and from observations made *during a part of the year*, I find that, while the weekly average on the books was 65, the average weekly attendance was 44, being about two thirds of the whole. The average period of attendance was 59 days.

Of the in-patients the average residence in hospital was 52 days nearly.

The above particulars I have thought it necessary to premise before presenting the following summary of the results of treatment.

In-patients 164, of whom were cured	71
Relieved	63
Discharged without benefit	7
Died in hospital 5 As out-patients 4	9
Remaining in hospital on 1st May, 1837	2
Remaining as out-patients 1st May, 1837	12†
	164

The above statement shows that the proportion of deaths occurring in the hospital was one in 32-8. or a fraction more than 3 per cent: but if we take into the account the four deaths which took place among those "made out-patients," the proportion will be one in 18·2, or not quite 5 1-2 per cent. In addition to these, I find, on strict enquiry, that of those discharged as "relieved" there died subsequently four; and of those who had received "no benefit" five; thus making 18 deaths in the whole. This gives a proportion of one death in rather more than 9 patients, or nearly 11 per cent. I shall by and by satisfactorily account for this apparently high rate of mortality. At present I may mention, that in nine of the fatal cases the disease was phthisis.

The cures in the cases of in-patients‡ amount to 43.2 per cent. and would have risen to a much greater number but for my extreme caution not to discharge as "cured" any patient, in whom there could be detected *the slightest remnant of organic disease.* Often, in affections of the chest, when the general symptoms appeared to warrant me in recording a "cure," the stethoscope discovered the existence of morbid changes, far beyond the power of our art to rectify, and calculated sooner or later to destroy life. It has frequently happened, besides, that a patient, though perfectly cured of the disease for which he entered the hospital, has laboured under some other infirmity of long standing, and which has been, to a certain extent at least, the cause of the more recent affection. In every such case the patient has been discharged merely as "relieved," even when he has thought himself quite recovered, and has left the hospital with the intention of immediately resuming his employment. To some persons such strict caution may appear uncalled for and excessive, but I cannot help thinking it essential to the correctness, and consequently to the utility, of every record of cases. When a patient labouring under anasarca, as a consequence of diseased heart, has had all the effused serum removed by absorption, he is freed not from the disease, but merely from one of its symptoms: and yet nothing is more common than to report such a patient as "cured." Numerous instances of a similar kind might be adduced in exemplification of the point here insisted on.

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* The rules of the hospital require that the out-patients shall be seen only once a week, but I am in the habit, during the intermediate days, of prescribing at my own house for all the more acute cases. The other medical officers, I believe, do the same.

† Of the 40 made out-patients, 28 were discharged prior to the 1st of May (vide page 177, note), the results of which cases are here distributed under the several heads of "cured," "relieved," &c. Twelve were cured, 11 were relieved 4 died, and one was discharged having received no benefit. In a subsequent table (Table A.) the 12 here reckoned under the head of "remaining as out-patients," are in like manner distributed among the "cured," "relieved," &c.

‡ The number of out-patients cured amount to 46 per cent. Vide Table B.

But neither the proportion of deaths, nor that of cures, nor even both together, can be regarded as decisive of the amount of care and skill employed in the treatment; unless the age of the patients, the nature of the cases, and their duration previously to admission into hospital, be at the same time noted and considered. I shall therefore proceed to such a detail of the circumstances connected with these points, as, without being needlessly minute, may yet be sufficiently explanatory.

In manufacturing towns the poorer classes, when ill and unable to work, have no other resource than to apply for relief to some public charitable institution; and hence it happens that the hospitals, in such places, generally contain a tolerably large proportion of *acute* diseases. In agricultural districts, on the contrary, where the poor are less improvident, and at the same time, are more attended to and assisted by their richer neighbour, medical relief is almost always obtained for a time at their own houses; and only the *more obstinate* and *chronic cases are sent into hospital.* Of the extent to which this is the case in Canterbury and its neighbourhood, some notion may be formed from the following tabular statement of the several periods during which, previously to admission, 148 of the in-patients treated by me had laboured under the same diseases for which they came under my care. The length of time during which the remaining 16 had been ill was neglected to be noticed when the cases were taken.

Of these 148 patients there had been ill—

during 3 yrs.	9 yrs	3 yrs	7 yrs	5 yrs	4 yrs	3 to 4 years	2 to 3 years	1 to 2 years	6 to 12 mths.	3 to 6 mths.	1 to 3 mths.	under 1 mth.
1	2		2	2	1	8	11	22	20	23	36	19

Their average duration of illness previously to admission was 487 days!

This has appeared to me so essential an element in every record of cases, that, with a view to still greater precision, I have inserted in the first of the table which here follows, the average duration, prior to admission, *of each separate disease.* The mere *general average* indeed, can convey but very imperfect information, for a few cases of many years continuance will raise it very high, even when, as regards the remainder, it may be comparatively low.

In registering, an admission, the cases of the out-patients, this important point was not sufficiently attended to; and therefore in the table appropriated to them (Table B) no notice is taken of it.

TABLE (A). IN-PATIENTS.

NAME OF DISEASE.	Number of Patients affected with.	Average age of same	Average Number of Days ill before admis.	Average Number of Days in Hospital.	Cured.	Relieved.	Discharged without Benefit.	Died in Hospital.	Date of Death reckoning from Admission	Died as Out-patients	Known to have died after Discharge.
Fevers.		years	days	days					day.		
Simple Continued Fever.	1	22	21	49	1						
Typhoid Fever	1	18	56	1				1	2nd.		
Chlorotic Fever	11	22	312	51	9	2					
Gastro-Enteric Fever.	3	34	35	55	3						
Remittent Fever	7	10	165	42	5	1		1	25th		
Bilious Remittent Fever	1	17	28	31	1						
Tertian Intermit.	7	26	107	31	7						
Quartan Intermittent	1	13	150	42	1						
Diseases of Head.											
Hydrocephalus .	1	31	63	42		1					
Hemiplegia . .	3	23	73	69	1	2					
Other Affections of Head	4	27	166	57	1	3					
Diseases of Thorax.											
Pericarditis . .	4	11	48	49	3	1					
Adherent Pericardium	3	20	242	49		3					
Diseased Heart .	3	41	1230	51		2		1	21st		
Chronic Pluerisy .	1	45	60	77		1					
Pleuro-Pneumonia .	1	36	10	24	1						1
Empyema, &c. .	1	37	730	63		1					
Pneumonia . .	1	36	50	42	1						1
Chronic Pneumonia.	2	19	530	37			1	1	50th		
Hæmoptysis . .	1	14	14	21	1						
Pulmonary Apoplexy	1	19	90	13				1	13th		
Phthisis . . .	18	26	171	46		11	3			4	5
Spasmodic Asthma .	1	42	3295	21		1					
Acute Bronchitis .	3	30	14	15	3						
Diseases of Abdomen.											
Chronic Peritonitis .	1	34	120	56		1					
Gastritis . . .	15	23	427	49	11	4					
Gastrodynia . .	1	31	565	2			1				
Hæmorrhage from Stomach and Bowels	1	23	730	56			1				
Melæna, &c. . .	1	59	60	63			1				1
Dyspepsia . .	5	51	180	32	1	4					
Intestinal Irritation .	9	35	436	65	2	7					
Dysentery . .	1	46	28	80		1					1
Chorea . . .	1	11	42	70		1					
Hysteria . . .	1	18	21	21	1						
Hysterical Paralysis	1	28	2920	01	1						
Chronic Hepatitis .	1	21	545	84		1					
Jaundice, &c. .	1	15	180	56		1					

Diseased Pancreas .	1	59	180	53		1					
Diseased Kidneys .	1	50	14	75	1						
Abdominal Aneurism	1			35		1					
Diseases of Pelvis.											
Diseased Uterus .	3	51	334	68		3					
Retentio-Mensium .	3	17		48	3						
Diseased Bladder .	1	70	1095	49		1					
Spine.											
Paraplegia . .	4	31	968	107	1	3					
Joints.											
Acute Rheumatism.	8	24	21	26	8						
Chronic Rheumatism	10	35	313	81	4	6					
Muscular & Fibrous Parts											
Lumbago. . .	5	49	765	37	2	3					
Sciatica . . .	1	42	120	105	1						
Rheumatic Periostitis	1	26	730	74		1					
Syphilitic Pains .	1	40	60	35	1						
Thyroid Gland.											
Bronchocele . .	1	14	1460	77	1						
Eye.											
Choroiditis . .	1	17	545	140		1					
Skin.											
Lepra Vulgaris .	1	19	545	49		1					
Psoriasis Inveterata.	1	16	4745	84	1						
Eczema Impetiginodes	1	28	8	95	1						
Total	164				78	70	7	5		4	9

TABLE (B).

OUT-PATIENTS.

NAME OF DISEASE.	Nmber of Patients affected with.	Average Age of same.	Average Period of Attendance.	Cured.	Relieved.	Discharged without benefit.	Discharged for Non-attendance.	Died.
Fevers.		years	days					
Chlorotic Fever	11	18	68	8	2		1	
Fever from prolonged Lactation .	3	27	39	2			1	
Gastro-Enterite	1	21	49	1				
Remittent Fever	9	6	66	6	2		1	
Tertian Ague	3	25	21	3				
Quartan Ague	1	34	35	1				
Diseases of Head.								
Hydrocephalus.	2	19	84	1	1			
Epilepsy	3	22	52	1	2			
Other Affections of Head . . .	8	42	63	3	2		2	1

Diseases of Thorax and Air-Passages.		years	days					
Diseased Heart	8	46	70		7	1		
Aneurism of Aorta	1	57	84		1			
Chronic Pleurisy	1	24	84		1			
Pneumonia, &c.	1	18	84	1				
Hæmoptysis	1	18	21	1				
Phthisis	18	29	62		8	1		9
Asthma	4	49	82	1	3			
Acute Bronchitis	1	20	14	1				
Chronic Bronchitis	10	33	75	5	4			1
Simple Catarrh	1	19	21	1				
Dry Catarrh	1	76	14				1	
Laryngitis	1	22	14	1				
Effects of Tight Lacing	1	19	42	1				
Diseases of Abdomen.								
Chronic Peritonitis	2	37	73		2			
Gastritis	3	26	57	3				
Gastrodynia	1	53	77	1				
Dyspepsia	12	44	62	1	10		1	
Intestinal Irritation	4	13	56	4				
Tympanitis	1	28	77	1				
Iliac Pain	1	56	42			1		
Diarrhœa	2	5	30	2				
Worms	3	17	77	1	1	1		
Chorea	1	13	84	1				
Hysteria	4	28	73	3	1			
Chronic Hepatitis	2	36	84	2				
Diseases of Pelvis								
Deranged Menstruation	1	45	74	1				
Menorrhagia	3	40	60	1	2			
Diseased Uterus	3	55	75		3			
Diseases of Genitals.								
Leucorrhœa	1	46	42	1				
Gonorrhœa	1	21	84	1				
Spine.—Diseased Spine	1	53	84			1		
Joints.								
Acute Rheumatism	1	4	11	1				
Chronic Rheumatism	7	56	79	1	5		1	
Muscular and Fibrous Parts.								
Lumbago	2	32	45		1		1	
Thyroid Gland.—Bronchocele	1	15	84		1			
Eye.—Amaurosis	1	29	21			1		
Skin.								
Syphilis	4	21	73	4				
Secondary Syphilis	1	11	84		1			
Porrigo Lupinosa	5	8	84	5				
Porrigo Decalvans	1	13	84		1			
Ecthyma Scabies	1	12	51	1				
Erythema Nodosum	1	29	56	1				
Lepra Vulgaris	4	10	39	3	1			
Diseases of Nerves.								
Paralysis of Arm	1	15	56		1			
Neuraglia	6	38	57	5	1			
Simple Debility	7	51	84	2	2	2	1	
Senile Dissolution	1	78	35			1		
Total	180			84	66	9	10	11

It was my intention, when I began to draw up this report, to attempt a pathological classification of the diseases of which it treats; but I soon became satisfied, that, in the present state of our knowledge, such an attempt must prove unsuccessful. Neither the healthy nor the morbid structure of our frames is yet sufficiently understood to enable us to determine accurately the seat, much less the essential nature, of each particular disease. The investigations of modern anatomists, it is true, have done much towards the attainments of these objects by making us acquainted with the special properties of the several tissues, and the peculiar changes which they individually undergo in disease: and this, I apprehend, is the course of investigation, by which, if by any, a precise and truly natural classification of diseases may be arrived at. Great, however, and manifold are the difficulties which must be encountered by those who undertake such a task. For even supposing the primary obstacle (namely, our imperfect knowledge of the tissues, whether in their health or diseased state) removed, yet many others of no small magnitude would still continue to obstruct the path of investigation. Diseases, though individualized by names, are not simple entities, having peculiar and well-defined characteristics by which they can be severally identified. Let any one, entering the wards of an hospital and noting down the leading symptoms presented by the various cases, compare them with the nosological definitions of Cullen or any other writer, and he will find it very difficult to assign to the great majority of them either "a local habitation or a name." A few will be found wanting in some one or more of the symptoms essential to their admission into any one of the apparently well-defined, yet really commingling classes; while in much the larger proportion the symptoms will be found so varied and, seemingly, so opposite, that the diseases which present them might with equal propriety be referred to this or to that order, genus, or species. I speak from experience; for the exercise is one in which I often employed myself in the days of my pupilage, and the results were such as to convince me of the exceeding difficulty to be met with in forming a comprehensive, accurate, and (so to speak) natural nosology.

But much, if not all of this difficulty, it may be said, arises from confounding the essential and accidental, the constant and occasional, symptoms of diseases; and this objection may, to a certain extent, be valid: yet it is nevertheless true that diseases are, in general, much too complicated for even their essential characteristics to be comprehensively, and at the same time strictly and exclusively, embraced by nosological definitions. Hence we can scarcely ever hope to see effected that precision of arrangement spoken of by Sydenham, who says: "Primo expedit ut morbi omnes ad definitas ac certas species revocentur, eadem prorsus diligentia ac *akribeia*, qua id factum videmus a botanicis scriptoribus in suis phytologiis."

If we attempt to classify diseases according to the tissues which they severally affect, we shall soon find ourselves placed in positions of no small embarrassment. We shall find that diseases which affect in their organ one tissue exclusively, invade, during their progress, another, and by their ravages upon this latter proceed often to a fatal termination. Diseased heart, liver, or kidney, terminating in dropsy; dropsy terminating by gastric inflammation; asthma, phthisis, aneurism of the aorta, &c., giving rise to bronchitis; hypertrophy of the heart occasioning apoplexy—these are a few of the many familiar examples that might be adduced in illustration of this important truth. To which tissue then is a disease to be attributed?—to that primarily implicated? or to that, the affection of which is the immediate cause of death? It may indeed be alleged, that, in these cases, a second and distinct disease is superadded to the original one: but by this mode of regarding the question, practical utility, the grand and leading object of nosological classification, would be very little promoted; for morbid states and lesions, which in nature are generally found, if not co-existent, at least consequent and dependent one upon another, would thus be violently disjointed, and marshalled into widely distant classes. Thus diseases would be described in their purely simple state, a state in which they seldom occur, and cannot long exist; while those complications, in the detection and proper management of which medical sagacity and skill are chiefly employed, would be in a great measure overlooked or neglected.

But with all these objections to a nosology based upon the tissues, and framed according to our knowledge of the morbid changes which they undergo, I am yet firmly convinced that upon no other groundwork, and with no other materials, can any thing approaching to a natural classification of diseases ever be erected.

There are many, however, (and among them some of no slight pretensions) who ridicule nosology in the abstract;—who regard it as, at best, an ingenious exercise of the fancy, requiring in him who labours at it little more than a knowledge of the names of diseases;—who ask triumphantly wherein its practical utility consists; and while they cannot themselves answer the question, are too proud and self-conceited to listen attentively to the answer of another. With such men the justly-earned fame of Cullen is a jest, and the learning of the older lights of our profession is little better than obsolete nonsense. Well is it for the reputation and usefulness of our art, that such opinions were not prevalent in former times; for then the records of medical science would have been as meagre as indolence could wish them, and their language as vulgar as ignorance itself could desire.

If no other advantage arose from our attempts to classify diseases, there would yet result this important one,—that we should thereby be taught the existing limits of our knowledge; for the degree of success attendant upon such attempts appears to me at least the most certain test of our actual proficiency. Before diseases can be arranged in any like a natural order, it is necessary not only that their own natures be correctly and intimately known, but also that their natural affinities be thoroughly understood. It is idle therefore to deny, that he who frames a good system of nosology must of necessity be practically and minutely acquainted with disease.

Nothing, however, could be more absurd, than to make an acquaintance with any one or more nosological systems a decisive criterion by which to judge of the qualifications of candidates for professional honours or practice. Any man may get by rote what he does not comprehend, while it is perfectly possible for a practitioner to understand thoroughly, and treat judiciously, diseases of which he does not even know the names. One cannot, indeed, be long and attentively conversant with disease, without framing in his own mind a nosological system of some kind or other; imperfect, it may be, and ill-arranged, but yet sufficiently clear and complete to facilitate his diagnosis and aid him in his practice. Such a system must, from the very manner of its formation, be constructed upon the analogies and natural affinities of diseases, without due attention to which no truly accurate and useful system of nosology can possibly be framed.

I have dwelt at some length upon the question above discussed, from a belief that the true end and scope of nosological classification are not generally understood; and that its importance, therefore, is not duly appreciated. I have pointed out a few of the difficulties incidental to its formation—difficulties which, for the most part, arise from our imperfect knowledge of the subjects which it embraces, but which must diminish, and finally even disappear, in proportion as the light of medical science increases. I have expressed my conviction that a knowledge of the tissues, in their normal and morbid states, must form *the best basis on which to ground a correct system of nosology;* and I have endeavoured to show, that the success attendant upon any attempt to classify diseases must form a sure test of the professional knowledge of its author, and (supposing him well informed) of the scientific advancement also of the age in which he lives. As then nothing is better calculated to promote knowledge than to demonstrate to men wherein, and to what extent, they are ignorant, it is very much to be desired that some one, fitted for the task by talent, observation, experience, and learning, will undertake the formation of a nosological system, founded upon the discoveries, and executed according to the advanced knowledge, of modern times.

In making out the foregoing tables, I have arranged the diseases simply according to their localities,—a plan which made it necessary to assign to *fevers* a special and distinct order, inasmuch as they are essentially diseases of the general system although aggravated often by local complications. In this order I have comprehended two diseases not hitherto looked upon as fevers, but which, from their general nature, I have long regarded as such. This departure from ordinary custom, as it is made without pretension, will I hope, be passed by without censure.

In treating of the diseases included in the tables, I shall follow the same order adopted in them; and while, for obvious reasons, my Report shall treat chiefly of the in-patient cases, notice will be occasionally taken of such interesting facts and observations as stand recorded in the out-patients' book.

Every disease however common, and every case of disease however unattended with unusual symptoms, must possess an interest for him who really loves his profession; who studies medicine for its own sake, and for the practical good which flows from it, rather than from the selfish wish to acquire reputation. For while it cannot be denied, that the more minutely and accurately we are acquainted with the nature and symptoms of a disease, the more rationally and efficiently are we likely to treat it; we may, at the same time, without fear of contradiction assert, that even in the most familiar maladies, there are still points, both theoretical and practical, which not only admit of, but require, further investigation. It behoves therefore the diligent cultivator of our science to observe closely, and report faithfully, *all* the morbid phenomena that present themselves; and not to limit his notice to those only that are calculated to surprise by their novelty, or to ensure general attention by their great and manifest importance.

But though I thus insist on the propriety of not overlooking and neglecting diseases and phenomena of disease, merely because they are of frequent and ordinary occurrence, I cannot help thinking that much harm has resulted from the too prevalent practice of diffusely describing diseases by dwelling at length on particulars which, being neither essential nor constant, had much better be omitted. This error is most conspicuous in the recorded histories of "cases," in which are usually found related (sometimes with great precision and an air of no slight importance) facts and circumstances which neither have any real connexion with the cases, nor reflect any light upon them.

Anxious to avoid *both* the errors above specified, I dictated on the admission of each patient, whether in or out, an account of his *then actual state ;* for the most part merely mentioning the symptoms, in the order of their prominence with scarcely any connecting words, and altogether without interspersed thoughts or observations. Thus the record of each case bore a strong resemblance to a nosological definition, from which, however, it differed materially in that it presented, generally, a greater or less complication of the symptoms of more than one nosological disease. To such a statement of the existing malady, was added a brief mention of its duration and supposed cause, as well as a concise history of its progress up to the period of admission. A similiar method was pursued in noting its subsequent course; so that the whole together constituted, as it were, but a skeleton of the case, all those parts which are usually added to give form, and roundness, and an attractive appearance, but which seem to me partially to conceal the fundamental and essential nature of a disease, being intentionally omitted. This much I have thought it necessary to say in justification of my own proceeding, and with that view solely; having no wish to prescribe a plan of conduct for others engaged in similar pursuits.

CHAPTER I.—OF FEVERS.

It very seldom happens that a practitioner finds any difficulty in pronouncing on a case of fever; and yet, up to the present day, the greatest lights of our own profession have been unable to determine wherein *the essence of fever consists.* Nor is this all, for even its seat is still undecided, pathological anatomy, from which one might have expected a solution of the question, having notably increased the grounds of dispute. It is not my intention to enter into an examination of the numerous theories of fever which have at different times been promulgated, and which, while they have received the assent and admiration of some, have been denied, combated, and even ridiculed by others. The subject is, indeed, one of importance; but it is better suited to a systematic treatise, than to a clinical report.

A mere detail however of isolated facts, unconnected by any chain of reasoning, and from which no conclusions are drawn, is very little calculated to add either to the extent, or the accuracy of our knowledge. While, therefore, I regard as foreign to my design, a critical enquiry into the opinions of authors respecting the diseases treated of in these pages, I feel that I may, without impropriety, not only state in general terms what my own views are, but also support them, when necessary, with appropriate arguments. In doing so, I must occasionally come into collision with the opinions and statements of others; in which case I shall consider myself justified in commenting on them so far as may be necessary to remove any impediment they may offer to the admission of my own views.

With respect to fever, the following proposition may, I think, be maintained and proved.

1. Fever is a general disease, affecting every organ and every tissue in the body.

2. Its acknowledged primary symptoms declare a depressed and actually enfeebled state of the whole nervous system.

3. But previously to the appearance of these symptoms, *the organic system of nerves, and the nutritive functions over which it presides,* have almost always been implicated, causing a deterioration of health, both felt by the patient, and visible to the eye of an attentive observer, although unattended with very prominent symptoms. Thus an affection of the organic system of nerves, and an almost simultaneously deranged state of the whole of the nutritive functions, constitute the first link in the chain of febrile lesions, and may, indeed, be considered as *the essence* of the disease; for as it is the first, so is it the only constant lesion in fever, through every stage of which it exists continuously.

The only exception to the statement, with which this proposition commences, is to be found in those cases of fever which originate in the action of powerful poisons, or in some sudden and violent impression made upon the nervous system generally; and this exception, as will be afterwards proved, constitutes, in reality, no objection to our doctrine respecting the *essence* of fever.

4. The local lesions which have, severally, been regarded as the cause, or as constituting in fact the essence of fever, may, and often do exist without the presence of fever: for the pyrexial excitement which they occasion is merely one, and that too a non-essential, element for fever. Individually they are not always present, and collectively they are sometimes absent. From all of which considerations, it follows, that they must, in general, be looked upon as either accidental or consequential. I say *in general*, for it sometimes happens that the local lesions, having existed for a considerable time, impair the energy of the nutritive functions, and become thus virtually a cause of fever.

Let us examine these propositions, and compare the doctrines which they express with universally admitted facts.

Prop. 1. The general, or as it has inaptly been named, particularly by the French writers, the *essential* nature of fever, is sufficiently proved by an enumeration of its symptoms. These declare a more or less disordered state of all the functions—of digestion, respiration, secretion, absorption, and the circulation; of the cerebral, nervous, and muscular functions. Some are affected at an earlier period, and to a greater degree, than others; but no case of fever passes through its whole course without presenting a greater or less derangement of them all. Most of them have their activity impaired; but the circulation, after what is considered the primary stage of fever has passed over, is, on the contrary, unnaturally rapid; and during the whole progress of fever absorption would appear to go on with augmented activity. This, however, may be only apparent; for nutrition being nearly at a stand, the action of the absorbent system must consequently be more visible in its effects.

Now as all the functions of the body are thus manifestly disordered, we are necessarily led to conclude, that the organs by which those functions are performed are in some way or other altered from their natural state; although such alteration may not be appreciable to our senses. And as in the composition of these several organs (all severely though not equally affected) different tissues predominate, there can be no reason to believe that any tissue is exempt from the morbid influence. Fever must, therefore, be regarded as a disease of the whole system.

Prop. 2. The accession of fever is marked by loss of appetite, nausea, chilliness, paleness of the surface, lassitude, indisposition to, and incapacity, for, much mental exertion. These symptoms may however be produced by causes which, transient in their operation, do not give rise to actual fever, although they occcasion a state of the system similar to that which exists in one stage of fever. Among the causes here alluded to, may be mentioned prolonged vigilance, abstinence, simple fatigue, a debauch, intestinal irritation, &c., all capable, individually, of producing actual fever, if frequently repeated; although a single operation of them goes no further than to occasion a depressed and disordered state of the nervous system. But in fever the nervous system is not only depressed, it is actually enfeebled, and cannot, therefore, be restored to a healthy state without the intervention of those other changes which by their occurrence constitute the subsequent stages of fever.

Prop. 3. The symptoms detailed in the foregoing paragraph denote an enfeebled state of the *whole* nervous system—of that part which presides over the functions of relation, as well as of that appropriated solely to the maintenance of organic life. But antecedently to the appearance of such symptoms there has existed, for a longer or shorter time, a deranged condition of the organic system of nerves, as well as deranged action of all the organs employed in the several processes of nutrition, from the digestion of the food to its conversion from the blood, into the solid components of the body. The period during which the deranged action may exist without affecting the brain and nervous system generally, is uncertain; but it is not, most probably, very long, for as the blood itself is speedly rendered impure, it must soon cease to afford a healthy stimulus to the several organs. Thus we can readily account for those symptoms which attend upon what is usually considered as the first stage of fever, all of which are attributable to a state of positive general debility, induced by an almost complete arrest of the several processes of nutrition.

The foregoing truths, while they afford a satisfactory explanation of what is called the *latent period* of fevers, receives, at the same time no inconsiderable support from it. We cannot suppose that the poisons which produce certain kinds of fever, and which remain each a determinate period in the system, before giving rise to what are considered the initiatory symptoms of fever, are in the mean time totally inactive. The indescribable state of *malasie*, in which patients find themselves during the latent period, renders such a supposition impossible. What then can be more rational than the conclusion, that the poisons, while they thus exist in the body, are employed in overcoming its organic powers, and that when they have effected this (which they do in a longer or shorter period, according to their several energies) their own operation begins to be manifested. Some are sufficiently strong to produce their full operation almost instantaneously; but even then their ultimate effects are the same, although their immediate mode of action is somewhat different. Thus, in these cases, the first distinguishable impression may be on the nerves of sensation; but those of the organic system are speedily implicated, and the whole organic function consequently impaired. Where it otherwise, the effects of the poisons would be at once partial and transitory.

From what has been said, it may be easily understood how every cause capable of weakening the organic powers of the system, may, by its continued action, induce gradually the same degree of imperfect nutrition and consequent general debility, which the more potent poisons, as it were, instantly give rise to.

Prop. 4. The arguments adduced by me in confirmation of the foregoing opinions, are derived from the history of fever—from the causes which produce it—the manner in which they operate—the symptoms which they occasion—and the order in which those symptoms present themselves. Evidence of this kind is much more to be trusted than mere pathological appearances, which declare the results of the several morbid processes, without affording us much insight into their order of succession, or their dependence one upon another. I am not, I hope, insensible to the advantages that are to be derived from a knowledge of morbid anatomy; but it is certain, that an implicit confidence in its evidence often leads to erroneous opinions. The disease of which we here treat affords, more perhaps than any other, ample proof of the truth of this remark.

That in certain types of fever, the mucous membrane lining the stomach and bowels is often extensively diseased cannot be doubted; nor is it less unquestionable that in other types (particularly in that denominated typhus) the brain is very generally found more or less altered in its structure: but the doctrines that, in either case, the local lesion is the cause, or constitutes the essence of the disease, is totally irreconcileable with the history of the symptoms, as well as with the facts that such lesions often exist without fever; while fever, again, frequently runs its course, even to a fatal termination, without presenting, after death, any visible traces of local diseases.

After what has been said of the essential nature of fever, we need not, I think, have any difficulty in accounting satisfactorily for the frequent occurrence in it of intestinal ulcerations. These are a necessary consequence of imperfect nutrition, by whatever cause produced; and are, therefore, commonly met with not in fever only, but in phthisis (in which, according to the accurate Louis, they exist in five-sixth of the cases) as well as in *tabes-mesenterica*, and, indeed, more or less frequently, in most chronic diseases. In the animals fed on bread and water by Majendie, ulcerations of the conjunctival mucous membrane always presented themselves. The process of ulceration consists essentially in a diminution or complete arrest of the organic or formative action of the capillary vessels; while the absorbent action goes on in the natural way. It takes place only in debilitated subjects, or, at least, in debilitated parts; and (if we except the skin) is most common in the mucous membranes, the lax and delicate vessels of which easily admit of congestion, and thus, losing their tone, have their formative action speedily impaired. The comparative frequency with which the digestive mucous membranes are thus affected may, in some degree at least, be accounted for by the slowness of the circulation through the portal system, on precisely the same principle as that by which we attribute ulcerations on the lower extremities to a varicose state of their veins.

Next after the mucous membranes, the tissue that most readily becomes ulcerated is that of cartilage; for its powers of life being naturally low, any further reduction, by the occurrence of inflammation or otherwise, speedily destroys the formative action of its vessels. Hence the frequency with which the cartilage are ulcerated in scrofula—a disease of general debility and great want of tone, in both of which the cartilages must of necessity participate.

The great importance attached to the intestinal ulcerations of fever, of which disease they are by so many regarded as the cause, have induced me to dwell thus at length, not only upon them specially, but also upon the ulcerative process generally, with a view to prove that as *it* owes chiefly its production either to general or local debility, inducing a diminution or arrest of the formative action; so they ought, in most cases, to be regarded as the consequence of fever—a disease the very essence of which consists, as has been shown, in a weakened state and disordered action of the whole nutritive capillary system.

But it is nevertheless certain that intestinal ulceration not only augment the fever, by impeding still further the process of general nutrition; but that they may, if brought into existence by any other debilitating cause, actually induce fever. This will not surprise us, when we consider how much ulcerations so seated must impede nutrition by interfering seriously with its first, namely, the digestive process. Thus are we enabled to account for the fever which frequently terminates phthisis, as also for that which often forms the closing scene in malignant and other chronic diseases. It is not meant that, in the above-mentioned instances, the ulcerations cause fever merely by their direct influence on digestion; they act also by exciting a sympathetic affection of the whole organic system of nerves.*

SIMPLE CONTINUED FEVER.

Of this form of fever only a single case was admitted. The patient, an unmarried female, æt. 22 years, could assign no cause for her illness, which had existed three weeks. Symptoms on admission (Sept. 9), head-ache, pain in epigastrium and in left iliac region, prostration of strength, countenance anxious, eyes slightly suffused, appetite impaired, tongue covered with a thick brown fur, bowels costive, pulse 100 feeble, cat. regular.

Previous to admission, she had been much troubled with nausea and vomiting, the former of which often recurred during her residence in the hospital, and proved very troublesome. Soon after the disease commenced, she had been bled from the arm without benefit.

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* That these notions respecting the nature of fever have not been hastily formed by me, may be proved by reference to an article on the subject, which I published in the *Medical Gazette*, more than five years since. *Vide Med. Gazette* for June, 1832; also *Lond. Med. and Surg. Journal* for (I think) Nov. in the same year.

The treatment consisted of mild aperients, leeches behind the ears, blisters to the epigastrium and nucha, emetics, and, on the decline of the disease, quinine. The emetics were given at a more advanced stage of the disease than it is usual to exhibit them (namely, at the end of the third and fifth weeks after admission), and proved very serviceable, cleaning the tongue, and relieving both the nausea and head-ache. The epigastric pain and tenderness prevented me from prescribing them at the outset. Their good effects were scarcely visible until the second day after they had been taken.

On the 28th of October, the patient was in a fit state to be discharged; but as she was still weak, and I wished to watch her convalescence, she was made an out-patient; and, going into the country, soon regained both flesh and strength.

Remarks. This was a case of that form of disease which some have denominated "walking fever;" for during the whole time that the patient remained in hospital, she was not confined to bed a single day. It was rendered tedious by the complication of head and gastro-enteric symptoms which, for three weeks, regularly alternated, the one set always declining as the other increased. This I have remarked in many other cases of fever.

The form of fever here treated of readily yields (as I have often experienced) to the liberal use of bark or quinine, when there is not much gastric or intestinal derangement; but in the present case, neither of these remedies could be employed until a very late period of the disease.

TYPHOID FEVER.

Of this form of fever only the following case was admitted.

Daniel Linwood, æt. 18, admitted April 22nd. *Symptoms.*—Low delirium; countenance pale; eyes suffused; epigastrium tense, and, as well as whole of abdomen, very tender on pressure; tongue dry, brown in centre; pulse scarcely perceptible; urine passed involuntarily; extremities cold.

Five weeks previously to admission had been discharged the hospital, where he had been under the care of my colleague, Dr. Chisholm, for an affection of the chest. His health continued impaired until the 17th of April, when he was seized with head-ache, prostration of strength, aversion to food, &c. He died on the day after admission, at 8 o'clock P.M.

Inspection 39 hours after death. Meningeal arteries filled with black blood; arachnoid opake and thickened; with subjacent patches of semifluid coagulable lymph; substance of brain extremely vascular; about two drachms of serum in left lateral ventricle, and upwards of two ounces in base of skull.

Bronchial ramifications throughout the whole of both lungs much dilated, and containing muco-purulent matter. A few granular tubercles visible near the surface of upper lobe of right lung.

Mucous membrane lining stomach of a mottled appearance, thickened, softened, and easily separated from middle coat.

Remarks.—We have here a case of typhoid fever, succeeding to chronic bronchitis, and carrying off the patient in six days after its access. The morbid appearances presented by the brain and stomach were unquestionably produced within this period, most probably within a few days of death, while those of the lungs must have had a much earlier origin. The patient, at the time of his admission, was evidently moribund; and about two teaspoonsful of fluid were all that he could be got to swallow, during the few hours that he survived.

CHLOROTIC FEVER.

Chlorosis has been regarded, by different authors, as a species of *cachexia*,—as one of the many forms of *hysteria*,—as a result of *amenorrhœa*,—as, simply a consequence of *anæmia*. The first of these views is that generally entertained by the older authors (in whose writings therefore, the disease must be sought for under the head of *cachexia*). The second is advocated by Sydenham. The third by Cullen. And the last by many of the Continental writers of the present day. But chlorosis may be said rather to comprehend within itself all the morbid states so named, than to be allied to, or result from, any one of them. I have ranked it among the fevers for the following reasons:

1st. It is a general disease, affecting every organ, and every tissue of the body.

2nd. It consists essentially in a deranged and actually enfeebled state of the organic system of nerves, and of the nutritive functions over which it presides.

The truths contained in the above propositions, are rendered, I think, manifest by a full and accurate consideration of the symptoms of the disease. But before proceeding to enumerate these, it may be well to state that I reject as altogether fanciful the division of chlorosis into two species, the *entonic* and the *atonic*. The former I believe, has no existence in nature.

The first or *latent* stage of chlorotic, like that of every other fever, is marked by no very prominent symptoms. Languor, depression of spirits, impaired heat of surface, broken sleep, disordered digestion—these exist as objects of feeling, for a considerable time before they or their effects become manifest to observation.

When the disease is fully developed, the following state of the system presents itself:

Skin dry, of a pale, yellowish, or greenish tinge; countenance heavy; eyes dull; under eye-lids tumid, particularly in the morning, often livid; lips exsanguious; great prostration of muscular power, giving rise to pain in left side, in neck, back, and extensor muscles of lower extremities; depression of spirits; chills, especially towards evening, and followed by exacerbations of fever; drowsiness; pain in occiput, often in left temple; short, hurried, irregular respiration; palpitation of heart; tendency to swooning; diminished, often depraved, appetite; acidity of stomach, nausea, and sometimes vomiting; flatulency, with distention of abdomen, and costiveness of bowels; a suppressed or disordered state of the menstrual secretion; œdema of ancles; coldness of feet; weakness, and febrile quickness of pulse.

In a still more advanced stage of the disease, the patient is querulous and fretful; the skin becomes rough, of a dirty, dull, leaden hue; respiration is not only quick and hurried, but laborious also; there is cough with scanty mucous expectoration, sometimes slightly streaked with blood; the heart beats more feebly, quickly, and irregularly; the abdomen is permanently enlarged, and fluctuates; and the bowels are irregularly loose.

All these symptoms may exist, and yet the patient, by proper treatment, recover; but the following *I have always observed* succeeded by a fatal issue—a swelling of the whole of one lower extremity (the left is that most frequently so affected,) and inability to sleep except in a semi-erect posture.

From the symptoms above detailed we perceive that, in chlorosis, the muscular, respiratory, nervous, sanguineous, secreting, excreting, and absorbent systems are all extensively and seriously implicated. In what *other* class of diseases than the *fevers*, is this universallity of sympathy observed?

The form of fever, to which the chlorotic bears most analogy, is the remittent fever of children; which, indeed, has been named by some authors *chlorosis infantium* (vide Suavages,) but this latter is now almost universally ranked among the fevers.

In chlorosis the absorbent system is less active, and the sensorial functions less affected, than in most of the other forms of fever: but these, if real objections to my views, apply in an equal degree to remittent fever, as the latter does to gastric fever also.

My doctrine of the febrile nature of chlorosis, derived as it has been from attentive observation of, and thoughtful reflection upon, the symptoms, receives no slender confimation from the fact, that Sydenham, in treating of the disease, designates it by the synonyme "febris alba."—(see his letter to Dr. Cole, in *Oper. Univers*, p. 354, Lipsiæ, 1827.) In his *Processus Integri*, he gives as one of the symptoms, "pulsus febrilis." Hoffmann also describes the disease as accompanied, in its advanced stage, by a slow fever—"increscente malo, lenta se associat febris, noctu maxime affligens, &c." (De Chlorosis Indole, &c. in Oper. Omn. Supplemento, T. vi. p. 391. Genevæ, 1753.) Platerus, in treating of fevers, describes a well-marked case of chlorosis under the head of, "Febris Lenta, Cachexia, Cordis et Arteriarum Pulsatio." (*Observ. Libri Tres. p.* 355, *Basileæ*, 1641.)

Some authors describe chlorosis as affecting occasionally the male subject; but I have myself never met with such a case. How then, if the disease be not in some way or other dependent upon the genital organs, is this fact to be accounted for? The general constitution, education, and habits of life, peculiar to females, may be stated in answer.

Dr. Cullen evidently regarded chlorosis as the product of *retained* menses,—a notion to which there are these two strong objections:—first, the disease is not confined to the period of puberty, but is very commonly met with in patients from 16 to 21 years of age, with whom the catamenia had for some time flowed regularly: and, secondly, cases not unfrequently occur in which the menstrual discharge continues to appear at proper intervals, although in diminished quantity, and of an unhealthy quality. This I have observed to happen in some very severe cases.

The true light in which to regard the retention, suppression, or altered state of the menses in chlorotic fever, is to look upon it as the result of the fever, and of the co-existent general debility. No one now regards suppression of the catamenia in phthisis as the *cause* of that disease; or attempts, as some of the older physicians advised, to cure the affection of the lungs by endeavouring to restore the uterine secretion. Almost all the remedies which were, and, by a few, still are, considered to exercise a peculiar and direct influence upon the uterus, act upon it solely through the medium of the general system.

Roche also (Dict. de Med. et Chir. Prat.) considers an enfeebled and inactive state (*langueur*) of the genital organs as the cause of chlorosis; but, in my opinion, a disordered state of the assimilative organs might, with much more reason, be assumed as its origin. These, as Hoffman well observes, are in a state of atony, giving rise to sluggish circulation, diminished secretion and excretion, impure chyle, depraved blood, impaired and disordered nutrition. (Op. Citat. p. 392.) Only one link, but that the primary one, viz. an enfeebled state of the organic system of nerves, is here wanting to complete the chain of actual morbid processes.

Van Swieten attributes chlorosis to "a defect of the action of the solids on the fluids," and to an "imperfect elaboration of the chyle into blood." Now these morbid states certainly do exist in chlorosis; but then they constitute only a *part* of the general pathological condition, and are, moreover, *consequences* of the pre-existent cause mentioned in the foregoing paragraph.

Hysteria, as well as chlorotic fever, depends upon debility of the organic powers; but in the former the debility is minor in degree, and does not lead to that general and aggravated disorder of the nutritive functions in which chlorotic fever essentially consists. We are thus enabled to account for so many symptoms being common to both, as also for the transient nature, and greater momentary severity, of those presented by hysteria. In chlorotic fever, the frame is not vigorous enough to originate a very high degree of action.

Among the symptoms common to hysteria and chlorotic fever, there is one, which, for its practical importance, deserves particular notice. It is a tender state of the spine, produced unquestionably by a sympathetic affection of the nerves of sensation. Depraved secretions in the digestive canal, together with flatulent distention of the intestinal coats, are well calculated to irritate the extremities of the sensitive nerves; and *it has been long known*, that irritation of the extremity of a nerve often produces a morbid state (I purposely avoid the term congestion) of its origin It is possible, also, that there may be a direct communication of diseased influence from the sympathetic to the spinal sensative nerves.

In some works published within the last few years, the spinal tenderness here spoken of is regarded as the result of original spinal irritation; and the disordered digestion, hurried breathing, palpitation of heart, &c. are set down as consequences also of the same. But this doctrine appears to me as irrational in theory, as it is seriously pernicious in practice.

There can be no greater error than the belief, that, because the local pains of hysteria are temporarily relieved by leeching, leeches, are, therefore, either necessary or beneficial. I would not be understood as altogether condemning their use in this disease; but I very rarely indeed find it necessary to prescribe them in it, and *I have seen many bad consequences result from their repeated application to hysterical patients.* Among these I would mention the production of a whole host of anomalous symptoms; of a peculiar species of paralysis (the hysterical;)also of such a state of the system as gives rise to a loud demand for further depletion, even when the body to the eye appears almost exsanguious.

Another evil resulting from the doctrine of "spinal irritation" is, that exercise is usually prohibited; and the patients condemned, sometimes for months together, to a sofa; when a ride on horseback daily, with the administration of suitable general remedies, would speedily remove all traces of local, as well as constitutional, disease.

The efficacy of exercise in preserving the health of females predisposed to chlorotic fever is well set forth by Van Swieten; who says, that when the patients have taken steel and purgative medicines for three or four weeks, "all the functions are quite restored; good wholesome blood begins to appear; and soon after the menses flow spontaneously at regular periods, provided they make use of that strength, which they have recovered by the use of this remedy (steel), in the motion and exercise of their bodies: for when they are cured, if they should again indulge themselves in drinking large quantities of warm watery infusions, and in a constant sedentary way of living, they will most certainly relapse into their former disorder."—*Comment.* v. xiii. p. 295, Ed. 1776.

One of the most striking features in chlorotic fever, is the unnatural tinge of the skin, which is owing not merely to the changes undergone by the blood (deprived as it is of a large portion of its *albumen* and red particles), but also to depraved nutrition from deficient energy of the nutritive capillaries.

Intermediate between chlorotic fever and simple anæmia, is a form of disease which, from the pure whiteness of the skin, has been denominated *leukosis.* In it the catamenia are seldom quite repressed, sometimes at the commencement they flow very profusely; the appetite is less impaired; nutrition is more healthily performed; and the febril symptoms are therefore less distinctly marked. It is, as might be expected, more easily cured than chlorotic fever.

The prognosis of this disease is often rendered very difficult by its apparent complication with tubercle in the lungs: and although a careful consideration of the whole of the general symptoms, enables us, in most cases, to form an accurate judgment, yet, but for the aids which percussion and auscultation afford, we should now and then find it impossible to do so. Even with such aids, discriminating physicians do sometimes fall into temporary mistakes. I have seen chlorotic young females who, after presenting difficult breathing, hœmoptysis, discharge of blood by stool, extreme emaciation, night-sweats, &c., have died of effusion into the pleura and pericardium, and in whose lungs not a trace of tubercular matter could be discovered after death. Who will say that he might not be mistaken in such cases?

By a reference to the tables it will be seen, that among the in-patients, there were eleven cases of chlorotic fever, and exactly the same number among the out-patients. The average age of the former was 22 years; of the latter 18 years. Among the former was one patient (a widow) æt. 44 years, which will in some measure account for their average age being so much greater. The former were, on an average 51 days under treatment: the latter 68 days. Both these periods may appear long; but most of the cases were very severe, and had had a protracted existence previously to their admission. To the good fare of the hospital must be attributed in some degree the shorter continuance under treatment of the in-patients.

The catamenia were present, though scanty and deranged, in *ten* cases; totally suppressed in *eight*, and retained in *four.* They were present in some patients in whom the disease existed in a very severe form.

The remedies employed were the same in almost all the cases, and were scarcely ever changed throughout the whole period of treatment. Some preparation of iron, generally the tinct. ferri muriat., or an electuary of *newly-prepared* carbonate, with a purgative twice a week at least, formed the leading remedies: while for the pain of head an emetic was sometimes prescribed with great benefit; or if that failed to give permanent relief, a small blister was applied to the temple; and, the cuticle being removed, half a grain of powdered morphine was dusted over the raw surface. Nothing could exceed the good effects of this measure, which was found equally efficacious against the troublesome palpitations of heart that prevail in chlorotic fever. In a few patients the morphine, thus applied, produced nausea and retching, an occasional inconvenience attendant also upon its internal use. I am not aware that any preceding writer has mentioned this curious fact. There is one family of my acquaintance, every member of which is attacked with retching after taking the smallest dose of morphia; although laudanum is borne without inconvenience. The head would appear to suffer first, and through it, the stomach.

I have hinted above at the propriety of combining frequent purgation with the use of steel in this disease. The same rule holds good in every instance in which any of the preparations of steel is administered. Without attention to it, feverish heat, headache, &c. are always excited, and the patient is rendered weaker, rather than strengthened. So strongly am I convinced of this truth, that I always regard frequent moderate purgation as an essential part of the treatment by steel. Frequently I give the purgative and steel in combination, as the ferri sulph. with the magnes, sulph. or the tinct. ferri muriat. with the tinct. aloes. The following draught is one which I often prescribe in chlorotic fever.

℞. Tinct. ferri muriat. ʒss.
—— hellebori nigri, ʒj.
—— aloes, ʒss. ad ʒj.
Inf. quassiæ, ʒx.
M. ft. haustus ter de die sumendus.

Even when aperients are thus combined with the steel, the separate exhibition of a purgative is often called for. Should however the stools at any time contain either blood or masses of gelatinous looking matter, both the purgatives and the steel ought to be immediately omitted for a time, and reliance placed solely on an unstimulating nutritious diet with exercise proportioned to the patient's strength.

Having made these general observations, which, if lengthy and numerous, are yet not unsuited to the importance of the disease; I shall now proceed to detail briefly a few of the cases. Where nothing to the contrary is said, it is to be understood that the subject of the case is an in-patient. This remark holds good with regard also to every other part of the Report.

Case 1.—S. M. æt. 21, admitted April 22nd.—*Symptoms.*—Countenance of a pale yellowish cast; eyes dull; conjunctivæ without bloodvessels; lips exsanguineous; respiration short and hurried; cough, with mucous, occasionally bloody, expectoration; palpitation of heart; pain in shoulders and in both sides; profuse night sweats; appetite much impaired; tongue slightly furred; bowels costive; pulse 120 feeble; cat. regular, but scanty and pale.

Bronchophony under both clavicles, but percussion clear.

Illness had existed two years.

Treatment.—Mist. ferri comp. ℥j. Tinct. digitalis, gtt. x. —ft. haustus ter de die sumendus.

Diet generous.

May 2. Sumantur c̄ sing. haust. pil. ferri comp. gr. v.

25th. Health and strength have progressively improved. Patient has gathered flesh, and her countenance has resumed its natural complexion. Night perspirations gone. Pulse 74. Natural functions all healthily performed.

Two days after this report she was made an out-patient, and was soon completely restored to health.

Remarks. This was one of those cases in which we find it very difficult to decide upon the existence or non-existence of tubercles. The hæmoptysis and night sweats would lead to the former inference; the absence of dulness on percussing the clavicles to the latter. The bronchophony unaccompanied by this last symptom could be readily accounted for, by the emaciated state of the patient. It appeared, however, more distinct under the left clavicle; but the difference was so slight, that I thought it might be imaginary. I have therefore not noticed it in the report.

The digitalis was continued throughout the whole of the treatment. It is a very mistaken notion to suppose that this medicine, in moderate doses, has a debilitating influence.

With the exception of occasional mild purgative, no other remedies than those mentioned were employed. Their good effects were very striking. In a few days, the cough and night sweats ceased; the breathing soon became more regular; the palpitations diminished, and gradually altogether subsided; the pulse sank to 74, making a difference of 46 beats in the minute; the appetite became natural; and the patient, in little more than a month from her admission, went out of the hospital with plump cheeks and a florid complexion.

Case 2.—J. E. æt. 17, admitted May 27th. *Symptoms.* Countenance pale and sallow; frequent dry cough; hurried breathing; palpitation of heart; pain in left temple; also in left side, and back; spine tender, particularly over two lowermost dorsal vertebæ; ancles tumid; feet habitually cold; bowels costive; tongue furred; pulse 100, feeble; cat. regular, but secretion scanty and pale.

Attributes her illness to cold caught twelve months since. Has been bled from the arm three times, and cupped along the spine ten times, besides being repeatedly blistered in the same region.

Treatment. Tinct. ferri mur. ʒss. ex infuso quassiæ, ℥j. ter de die.—Pil. colocynth, comp. gr. v. singulis noctibus.

June 6th. Considerable improvement. Tenderness of spine diminished. Head-ache with absence of fulness and obstruction (as it were) in epigastrium; tongue furred; pulse sharp.

Medicines to be temporarily omitted—sumat vespere pulv. ipecac. ℈j.

On the following day, the head and epigastric symptoms had disappeared. The steel medicine and pills not however resumed till the 8th.

15th. Head again painful—*emp. lyttæ nuchæ.*

18th. Head still affected—*balneum pluviale singulis auroris.*

24th. Return of epigastric fulness, &c.—Vespere pulv. ipecac. ℈j.

From this date the patient's recovery progressed uninterruptedly, and she was discharged cured on the 8th of July—five weeks from the time of admission.

Remarks. We have here an instructive instance of the evil effects that result from treating the spinal tenderness of chlorotic fever as *an original and independent affection.* Who can doubt that so much depletion must have aggravated and kept up the symptoms? I believe, indeed that the disease, as it existed on the patient's admission, was, in a great measure, the *creature of bad treatment.* The spine soon ceased to be tender *when nothing was done to it,* and when the patient's health was properly attended to.

The medicines prescribed on the patients's admission were continued until the period of her discharge, without alteration; and also without intermission, except for two days (from the 6th till the 8th of June) during which there existed derangement of stomach, with head-ache, and a tendency to febrile action, all of which were speedily relieved by the emetic. The head-ache returned, and a blister was applied, but without any benefit. The shower-bath was then used, and its good effects soon became obvious. It was continued daily during the remainder of the patients's stay in hospital.

A second emetic exhibited on the 24th June proved not less beneficial than the first. Emetics, indeed constitute a most useful adjuvant in the treatment of chlorotic fever. They not only relieve gastric embarrassment (to Anglicise a very significant French term); but impart a salutary stimulus to the whole of the system. Respiration, circulation, digestion, and the nervous functions, are all beneficially influenced by them, when judiciously administered.

Case 3.—A. R. æt. 19, admitted June 3rd. To the ordinary symptoms of chlorotic fever there was added in this case strabismus. The right eye was the one affected; but although its axis of vision seemed very different from that of the left, the patient did not see double. She saw in fact only with the stronger eye; and yet *when it was closed,* objects were still discerned, although less clearly by the other. There was acute pain in the right temple.

The yellow tinge of the skin was deep, not unlike that which attends upon declining jaundice: the bowels were obstinately costive: and the catamenia had been present only twice in six months—the last time four months previously to admission.

Illness had existed nine months; strabismus four weeks.

Treatment.—Tinct. ferri mur. ♏ xxv. ex infuso quassiæ ℥j. ter de die. Pil. hyd. c̄ coloc. gr. v. sing. noctibus.

On the 16th June an emetic was given with marked alleviation of head-ache, increase of appetite, &c. It was repeated on the 14th with equal benefit.

June 17. A blister to back of neck—one drachm of the steel electuary (containing 10 grains of the newly-prepared carbonate) to be taken with each draught.

23rd. Pil. hyd. gr. v. sing. noctibus, vice pil. hyd. c̄ colocynthide.

On the 16th July, the following report was made.

General health greatly improved since admission; strabismus much less visible; pain of head quite gone, but complains occasionally of giddiness; bowels regular; cat. have not appeared.

Pains in loins and hips being at this time felt, twelve leeches were applied *circa anum*, and the hip-bath used on their removal. Cat. did not appear, but the patient's general health continued to improve.

July 23rd. Pil. hyd. gr. v. nocte maneque.

July 25th. Pil. hyd. gr. x. sing. noctibus et gr. v. sing. auroris.

On the 1st of August the patient was attacked with influenza, which reduced her considerably. The steel draught and electuary were discontinued, and saline diaphoretics administered in their stead.

On the 15th the steel electuary was resumed, and with it a tonic draught containing quinine. Under this treatment the patient quickly rallied from the effects of the influenza, and on the 26th, was made an out-patient, her cure being complete in every respect, except that the menstrual secretion had not yet established itself. This however it did soon afterwards.

Remarks. This case was characterized by an unusually torpid state of most of the secreting and excreting organs—of the liver, the intestines, and still more especially of the uterus. The emetics, by rousing the system, operated very beneficially; their effects however were transient, and accordingly I found it necessary to prescribe the blue-pill. But although it was taken for some weeks, and in considerable doses, such was the torpor of the system that the gums were not in the least affected. Yet the yellow hue of the skin diminished under its use, and the bowels were kept by it in a regular state. The strabismus also completely disappeared; but this may have been owing, in part, to the tonic influence of the steel, which, up to the attack of influenza, was given without intermission.

It is in cases like the present, that stimulating injections into the vagina are most likely to be useful; but I have seldom seen any good follow their employment; and in such a state of the general system, it appears to me incomprehensible how a mere local stimulant can produce any decided beneficial effect. The arrest of the catamenial secretion is *an effect of the general disease*; and while that disease continues, any action that we may be able to force the uterus into by stimulating injections must be both imperfect and very transitory.

Case 4.—F. R. æt. 25, admitted June 3rd. *Symptoms.*—Great general debility; skin dry, harsh, and of a brownish yellow tinge; eyes surrounded with a dark brown circle; hurried breathing; frequent palpitations, tenderness over two superior lumbar vertebræ; pain and numbness of both lower extremities; inability to walk even a few steps, although, in the horizontal position, the limbs are moved with freedom; skin covering legs traversed with numerous large blue veins, and marked anteriorly by large, slightly elevated, reddish brown patches, the remains of long-continued *erythema* *nodosum*; adjoining periosteum thickened and uneven to the touch; pulse 84, feeble; tongue of a uniform bright red colour; gums soft and spongy; bowels regular; cat. absent for six months.

Illness commenced very suddenly about eight months since, when she was bled from the arm twice.

Treatment.—Pelv. alterativ. gr. v. sing. noctibus. Tinct. ferri mur. ʒiij. Tinct. hellebor. nigr. ʒij. Dec. aloes c. ℥j. Inf. quassiæ ʒxss.—Ft. mist. ʒj. ter de die.

June 8th.—Omittatur pulv. alterativ. Hyd. submur. gr. xij. Pulv. opii gr. iv. Confect. q. s.—fiant pilulæ sex, sumt. j. sing. noct.

14th.—Slight irritation of bowels; faint effort at menstruation.—Omittantur pilulæ pro tempore.

15th.—Pain in region of duodenum.—Adhibeatur emp. lyttæ. Pil. Plummeri, gr. v. sing. noctibus.

17th.—Bowels free from all uneasiness.—Elect. ferri ʒj. ter de die.

20th.—Legs to be rubbed with the soap liniment, and bandaged with a flannel roller.

July 7th.—Electuary to be taken four times daily.

18th.—Pains still felt in tibiæ; periosteum thickened and uneven, although not nearly so much so as on admission.—Plummer's pill omitted; calomel and opium resumed.

From this date, the amendment was very rapid; and before the end of the month, the patient might have been discharged, but I was anxious first to see the catamenial secretion perfectly re-established. It appeared again on the 29th, but ceased on the second day after, the patient being attacked with acute catarrh, which threw her back more than five weeks. The steel mixture and electuary, and indeed all the medicine prescribed for the chlorotic fever, were omitted while the catarrhal symptoms were at the height.

On the 19th of September, the following note of the case was taken:

General health has very much improved during the last fortnight; and she is at present quite free from pain. Lower extremities have regained, to a considerable extent, their natural powers; which, for four months previously to her admission, were so much impaired that she could not walk across the floor. Bowels regular; tongue more natural in appearance, though still morbidly red; appetite good; sleep undisturbed and refreshing.

On the 23rd of September, the patient was discharged "benefitted;" for as the tongue was still morbidly red, and the catamenial secretion had not yet perfectly re-established itself, I did not deem myself justified in recording a cure. A few weeks afterwards I saw her at the hospital, when she appeared perfectly restored to health. She stated that she was then able to walk several miles without fatigue.

Remarks.—Each of the foregoing cases was characterized by some feature, or set of features, peculiar to itself—the first by hæmoptysis, night perspirations, and a strong general likeness to phthisis; the second, by an unusual degree of spinal tenderness; the third, by the existence of strabismus, together with an extremely torpid state of the general system. The present case was not less distinguished by an unusually morbid condition of the intestinal mucous membrane; by a spongy state of the gums; by the existence of *erythema nodosum*, and (probably as an effect of it) by thickening of the tibial periosteum. I suspect, however, that a strumous diathesis had something to do in the production of this last symptom, although there were no traces of glandular disease.

Having thus adverted to the nature of the disease, let us now consider briefly the treatment.

I make no comments on the venesection twice practised at the commencement of the patient's illness; for I know not how far it may have been necessary. I cannot, however, lose sight of the fact, that the attack for which she was bled was a very sudden one.

From the symptoms, as they existed on admission, I derived two leading indications—to impart tone and strength to the general system, and to improve the highly morbid condition of the intestinal mucous membranes. Each of these, indeed, might be said to include to a certain extent the other; but in practice it is often of great importance to separate *partially* lesions (and their representatives, symptoms), which in nature are indissolubly connected. Herein, indeed, consists one exercise of that practical tact, which bedside experience alone can give a man, and in which therefore the mere anatomical pathologist must needs be wofully deficient.

But to return to the treatment of the present case. Holding in view, but not over-estimating, the morbid condition of the intestinal mucous membrane, I prescribed for it the pulv. alterativ.; while at the same time, I was not deterred from giving small doses of steel, combined, as usual, with a mild aperient. In a few days, calomel and opium were substituted for the alterative powder; but, after a week, the bowels becoming irritable, Plummer's pill was ordered instead. A blister also was applied over the duodenum.

The derangement of bowels being quieted, I deemed it advisable to increase the dose of steel; but as the mixture agreed well, I preferred, instead of changing it, to combine with its use that of the electuary.

The Plummer's pill (I always prefer any name which records individual merit, however slight) was designed to be given only temporarily, until the calomel in a larger quantity, and combined with opium, could be borne; but it agreed so well and acted so favourably, that it was continued up to the 18th of July, when, there being severe tibial pains, with still-existing, though diminished, thickening of the periosteum, recourse was once more had to the calomel and opium. They no longer irritated the bowels; on the contrary, the morbid state of the tongue became daily less marked; the tibial pains at the same time diminished, and gradually ceased altogether; the patient walked with ease, and felt delighted to walk; and her whole general health improved most strikingly. Had it not been for the attack of catarrah, she might have been discharged nearly six weeks sooner than she was.

Case 5.—S. H., æt. 23, admitted December 16th.

Symptoms.—Strength much impaired; countenance sallow; (although patient is naturally of a sanguineous temperament) pain in both temples, often in occiput; distressing palpitation of heart; tenderness over sacrum with internal sense of pelvic fulness; pain in hypogastric region; bowels open; tongue furred; urine natural, and passed freely; cat. not suppressed, but irregular, scanty, and pale; pulse 110, irritable.

On applying the ear to the chest, the heart was found to pulsate more strongly than natural; but the stroke was quick and sharp, very unlike that of hypertrophy. It was accompanied with a slight bellow's sound.

Illness had existed six months, and had been attributed to diseased heart. I thought very differently of it, and prescribed as follows:

Ext. colocynth comp. gr. v.
Hyd. submur. gr. v.—f. pilulæ duæ h. s. sumend.
  Haust. cathart. domest. primo mane.
Purgatione finitâ, sumat ægrota ter de die.
Quinæ sulph. gr. v. necnon haustum sequentem.
  Tinct. ferri muriat. ♏xx.
Infusi quassiæ ℥j.—f. haustus.

To prevent a costive state of the bowels, five grains of the pil. hyd. c coloc. were ordered to be taken every night.

Under this treatment, the symptoms rapidly declined; the heart acted more regularly and quietly in proportion as the system became stronger; the bellow's sound ceased to be audible; the patient's complexion became florid; and notwithstanding an attack of influenza which she suffered in the beginning of January, she was discharged "cured" on the 17th of that month, not quite five weeks from the time of her admission.

Remarks.—It would be idle to insist at any great length on the necessity of discriminating accurately between affections of the heart resulting from organic disease, and those which are sympathetic, and purely functional. Most, if not all, practitioners are aware that this important difference exists; and it is only from a want of proper attention to the symptoms attendant upon each particular case, that men fall into error, and thereby appear ignorant of the grand general distinction. And yet how often is the one form of disease mistaken for the other! *Inattention*, in fact, is the great source of error in medical practice; and no physician can ever arrive at excellence, who does not, *early in his career*, habituate himself to a strict and minute examination of every case that comes before him. A thorough acquaintance with the general nature of each particular disease will not suffice; there must be a constant habitual exercise of both the perceptive and the reasoning powers; otherwise what is known will not be recognized, and what is recognized will not (as to its individual nature at least) be perfectly understood.

Before dismissing the case, I would draw attention to the sacral tenderness and sense of pelvic fulness, both of which doubtless arose from fæces retained in the rectum; although, at the time, the bowls were (as the patient herself averred, and as the report states) naturally open. The hypogastric pain depended in all probability on the same cause, for it ceased, together with the other two symptoms, on the patient's being well purged.

Case 6.—H. C. æt. 16, admitted 17th January, 1837.

Symptoms.—Skin of a deep brownish yellow tinge; acute pain in left temple; hurried respiration; præcordial tightness, with turbulent irregular action of heart; pain in right iliac region; bowels irregular; tongue furred; pulse 104, feeble; catamenia have never appeared.

Illness said to have existed only two months.

Treatment.—Pulv. ipecac. ℈j. vespere.
Haust. cathart. domest. cras mane, nisi vomitorium inferiorem ventrem expurgaverit.

Jan. 19th. Purgative given—both it and the emetic acted freely—head free from pain.

Pulv. cinchon. flav. ʒss. ter. de die, iisdemque temporibus haust. sequent.
Tinct. ferri muriat, ♏xxv.
Infusi quassiæ, ℥j.—f. haust
Pil. hyd. c colocynth, gr. v. sing. noctibus.

Emetic was repeated with marked benefit on the 24th, and also on the 27th of January.

On the 16th of February a purging draught was prescribed; and, after that day, the patient was directed to take two pills every night, instead of one as heretofore.

On the 22d I find the following report:

Pains all gone; general health greatly improved; natural complexion has returned to cheeks; bowels slow; tongue furred.

Sumat cras mane ol. ricini, ʒj.

Catamenia appeared on the 23rd, and the patient was discharged "cured" on the 28th.

I need scarcely remark that the bark and steel were continued without intermission, from the day on which they were first ordered.

Remarks.—The details of this case do not invite to many observations. The patient had, most probably, been ill longer than she herself stated; but yet not long enough for the production of many secondary and complicating symptoms. The case was, indeed, almost a simple, though severe, one of chlorotic fever; and as such readily yielded to the appropriate remedies. Three emetics were prescribed, each with very signal benefit; and purgatives were administered even more unsparingly than usual.

Case 7.—M. T. æt. 44, widow, admitted March 21st, 1837.

Symptoms.—Great prostration of strength; skin dry and harsh; complexion sallow; lips exsanguious; pain in epigastric and præcordial regions; distressing paroxysms of palpitation, attended, sometimes, with a sense of dissolution; frequent chills, followed by partial flushes; slight œdema of ancles; bowels costive; tongue clean; pulse 110, feeble; catamenia regular but scanty.

Illness commenced eleven weeks since, with a rigor followed by headache; for which she was bled from the arm, being at the time in a state of great debility from a previous attack of influenza.

Treatment.—Ol. ricini, ʒj. cras mane.
Quininæ sulph. gr. iij. ter de die, necnon, iisdem temporibus, haust. sequent.
Tinct. ferri muriat. ♏xx.
Infusi quassiæ, ℥j.—f. haustus.
Pil. gambog. comp. gr. v. sing. noctibus.

March 28th.—Palpitations very distressing.

> Præcordiis adhibeatur emp. lyttæ, et, remota cuticula, applicetur pulv. mur. morph. semigranum; superponendo linteum chirurg. non illitum.

The effect of this remedy was not merely to relieve the palpitations temporarily, but to subdue them altogether. They did not at least return during the patient's stay in the hospital.

But, a few hours after the application of the morphia, the head began to feel confused, and heavily painful; and continued more or less so until the first of April, when a blister was applied to the back of the neck. This had the desired effect, and the patient gained strength daily, but being desirous of returning home, she was discharged on the 18th of April, her cure though far advanced, being not yet complete.

Remarks. I shall advert only to two points in the foregoing case, and even to these as briefly as possible. They are—

1st. The age of the patient.
2nd. The effects of the endermic use of morphine.

1st. Chlorotic fever is not often met with in patients above 24 years of age. It does, however, occasionally attack persons more advanced in life, and then it occurs chiefly about the period of the cessation of the menses; and is found to affect mostly unmarried, or widowed females, of a naturally delicate constitution, and whose health has been impaired by distress of mind; by bodily privations; or by some antecedent disease. In such patient, it is generally much more difficult of treatment than in the young.

2. The speedy relief of the most distressing functional palpitations of heart, by the endermic use of morphia is a fact well worthy of attention I have, in other cases, repeatedly tried the remedy, and always with the same good result. The dose has never been more than a grain, and in general only half that quantity. In no dose whatever will it act so beneficially if administered internally. How are we to account for this difference? That, against a mere external pain, its efficacy should be greater when transmitted through the vessels, or applied to the nerves, of the part, can be easily understood; but that an internal organ should be more influenced by its application to the corresponding external blistered surface, (unconnected through the two be either by vessels or by nerves) than by its administration in the ordinary way—this is by no means so easy of comprehension. We may, it is true, explain it by the "sympathy of contiguity." but what are we the wiser for such an explanation? If any one, however, is satisfied with it, to him in particular the following ascertained fact cannot but be interesting. The application of the morphia to a distant part, (as, for instance, to the temple) has very little effect upon the palpitations, even when we have proof of its affecting the constitution in the nausea and retching which it produces. And this leads me to another important observation relating to the same point. It is, that the morphia thus applied affects the stomach much more certainly than when the application is made to the epigastric region itself. The fact here stated cannot be said to militate against the doctrine of "contiguous sympathy," unless we altogether lose sight of the influence which the *par vagum* exercises over the stomach.

Among the out-patients some very interesting cases of chlorotic fever presented themselves; but my observations on the disease have already extended to such a length, that I am reluctantly compelled to refrain from a detailed notice of them.

FEVER FROM PROLONGED LACTATION.

My reasons for ranking this disease among the fevers are the same as those assigned for my classification of chlorosis. I do not expect that they will, at first sight, appear satisfactory to many of my readers; but the more the subject is inquired into, the more, I think, will the justness of my views become apparent. Even minds the most prone to conviction feel, for a time, loth to admit any change in their established notions, be they what they may; but truth and reason are always sure to prevail in the end If I have these on my side—and I believe I have—there can be no doubt that my opinions will sooner or later come to be generally adopted. But the matter, after all, is not of much practical importance; for as to the treatment of the diseases in question, no difference of opinion is likely to exist.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.

5th August, 1837.

THE following statistical report of the cases of typhus fever treated during the time specified below in the Dumfries Infirmary, has been transmitted to us by Mr. G. H. Smith, the house-surgeon of that Institution.

It gives us great pleasure to insert it, and the document reflects much credit upon Mr. Smith, who drew it up, as well as on the medical officers who have sanctioned it. We will gladly open our columns to such clinical reports, and we are sure that if the physicans and surgeons of the various excellent Provincial Hospitals will encourage them, the publication will redound to their own honour and advantage, as well as to the interests of science. We have said more on this subject in another place.

REPORT.

The whole number of cases treated from the 1st of February to the 1st of August of the present year, amounted to 109; of that number 15 proved fatal, *i. e.* 1 in 7 4-15ths. Of these there were males 54; and females 55; the mortality of the former, was 1 in 6 3-4ths, and in the latter 1 in 7 6-7ths.

The disease was traced to contagion in 59 cases, at least, the whole 59 cases were either persons of the same families and living in the same houses, or persons living in infected localities, and in the habit of visiting those ill with fever. In the remaining 50, it was traced to various causes, but chiefly to exposure to wet and cold, to living in ill-ventilated apartments, and to deficient and unwholesome food; but in a few cases no cause could be assigned.

The day of the disease on which the patients were admitted varied from the first to the fourteenth day; but the majority from the fifth to the seventh day; and the whole averaged the seventh day.

The day of the disease on which the crisis was observed varied very much; it most frequently happened on the 11th, 13th, 15th, 17th, and 21st days; in some cases it was well marked; in others it was very obscure.

The following Table exhibits the number of cases treated between the different ages as marked; the average day of the disease on which they were admitted, the average day of the crisis, the average time in the hospital, the number in which the rosy eruption, petechiæ, or both eruptions, or in which no eruption was observed; the parts to which the fever determined, and the result of the cases. It also shows the proportion of deaths and cures, where an eruption or where no eruption was a symptom, and also the proportion under the different heads, local affection; and likewise the average day of admission, crisis, and period in hospital, under each complication. The cases which proved fatal, are not taken into account in striking the average for admission, crisis, and time in hospital.

[*See Table next page.*]

From the table the following inferences may be deduced.

First. That the most frequent form of fever here is where there is evidence of disorder in the head, chest, and belly at once; and differing little from this in point of frequency are those cases in which the head and belly alone are affected. The former form occurred in rather more than one-fourth, and the latter in nearly one-fourth, of the whole number of cases. The next most frequent form is found where there are symptoms of disturbance in the head, with some local affection in the chest, and that generally of the bronchial mucous membrane; and the same number of cures is found where there were signs of abdominal disease alone. Both complications occurred in rather more than one-eleventh of the cases.

Second. That the largest proportion of fatal cases is found to be, 1st, in those cases in which there were the combination of symptoms referrible to the head, throat, chest, and belly—three, or one-half of the whole cases having proved fatal; 2d, those in which there was determination to the head, chest, and belly; in which six, or rather more than one-fifth of the cases proved fatal—and constituting two-fifths of the whole mortality. And lastly, in those in which there was diarrhœa with local affection in the head and belly. Of this class of cases one-sixth terminated fatally.

Third. It appears that petechia, and more particularly when present with the rosy eruption, is a most unfavourable symptom; no less than one-half of the whole cases having proved fatal, and forming more than one-half of the whole mortality.

Fourth. That the most protracted cases were, 1st, those classed under local affection of the head, throat, chest, and belly; 2nd, under the head and belly, with diarrhœa; and to the same degree were those in which there were symptoms of disorder in the head and chest.

Fifth. That the greatest number of cases was admitted between the ages of 10 to 20 and 20 to 30; the rate of mortality least between the ages of 10 to 20; and if we except the ages of 50 to 60, where all died, the rate of mortality increased with the increase of years.

For more minute particulars reference must be made to the Table; but it may be remarked that those complications, where the largest proportion of deaths is found, are not invariably the most protracted forms of fever.

AGE.	Males.	Females.	Total treated.	Average Day of the Disease admited on.	Average Day Crisis took place on.	Average Time in Hospital.	Rosy Eruption a symptom.	Petechia a Symptom.	Both Eruptions Symptoms	No Eruption.	No Local Affection.	Local Affection in Head.	Local Affection in Chest.	Local Affection in Belly.	Local Affection in Head, and Parotids.	Local Affection in Head and Chest.	Local Affection in Head and Belly.	Local Affection in Head and Belly with Diarrhœa.	Local Affection in Chest and Belly.	Local Affection in Head, Chest, and Belly.	Local Affection in Head, Throat, Chest. and Belly,	Local Affeclion in Throat, Chest, and Belly.	Cured.	Died.	Local Affections of the Cases which terminated fatally.
Under 10	5	5	10	6	13	17½	3	1		6	2	1	1	2	1		3						9	1	Head and Parotids.
10 to 20	12	19	31	6	14	18¼	14	3	1	13	3	2	1	5		2	6	2		6	1	3	29	2	Head, Chest, and Belly ,and Head Throat, Chest and Belly
20 to 30	15	15	30	5	16	22	16		1	13	1			2		3	7	1		10	5	1	27	3	Head, Throat, Chest & Belly in two ; Head & Belly in one
30 to 40	13	5	18	6	15	15	7	1	1	9		4				3	3	2	1	4		1	16	2	Head, Chest and Belly ; and Head & Belly with Diarrhea.
40 to 50	6	7	13	7	16	22¼	4	3	1	5		1		1		1	3	1	1	5			11	2	Head, Chest, and Belly.
50 to 60	1	2	3					2		1							2			1				3	Head, Chest, and Belly In one ; & Head & Belly In two
60 to 70	2	2	4	12	22	16	1		2	1						1	1			2			2	2	Head and Chest ; and Head, Chest, and Belly.
Total :	54	55	109	7	16	18½	45	10	6	48	6	8	2	10	1	10	25	6	2	28	6	5	94	15	
Deaths.	8	7	15				4	4	4	3					1	1	3	1		6	3			15	
Cures .	46	48	94	7	16	18½	41	6	2	45	6	8	2	10		9	22	5	2	22	3	5	94		
Average day of admission . .							6	7	9	6	4	5	8	4		9	6	7	4	8	8	6	7		
Average day of crisis							17	15	17	13	9	11	16	11		19	14	19	14	17	21	17	16		
Average time in hospital under each complication											14	13½	12	15		22	18½	27½	17	22	24	19	18½		

The following circumstances may not be uninteresting, viz. that in one case the patient was under the influence of mercury for the cure of a venereal complaint when seized with the fever—the case terminated fatally; in six cases the catamenia appeared with the invasion of the disease—two of which cases proved fatal; in one case abortion happened between the third and fourth month—the patient recovered; in two, epistaxis took place during the progress of the fever—both recovered, but one of the cases made a very protracted recovery; in this case blood likewise oozed from the gums, and the urine had a bloody tinge.

The day of the fever on which death took place varied from the 10th to the 31st, and averaged the 15th day. Of the 15 fatal cases, permission for a post-mortem examination of 11 was obtained; it was performed from 12 to 36 hours, but generally 24 hours, after death. The following Table exhibits the morbid appearance.

Inflammation of membranes of brain in	2
Venous and arterial congestion in head in	8
Effusion of serum beneath arachnoid in	9
Effusion of serum between layers of arachnoid and into ventricles in	3
Serous cyst in posterior lobe of right hemisphere in . .	1
Deposition of bone between the layers of falx cerebri in . .	1
Inflammation of pleura acute in,	2
Effusion of serum into pleural cavities in	2
Recent adhesions of pleura in 1 and old adhesions in 4 . .	5
First degree of hepatization of lungs in 1; and third degree of hepatization of lungs in 1 .	2
Bronchitis acute in . . .	5
Ulceration of larynx and œdema of epiglottis in	1
Opaque spots on right auricle of heart in	1
Ossification of mitral valve, and contraction of corresponding aperture in . . .	1
Congestion of mesenteric veins in	11
Adhesions (old) of the omentum and mesentery to abdominal parieties in . . .	2
Glands of Peyer enlarged in .	6
Isolated follicles of great intestine enlarged in . . .	4
Softening of mucous membrane of small intestine in . .	3
Ulceration of small and large intestine in	1
Intus-susceptions of small intestine	2
Congestion & softening of spleen in 2; and granular appearance of in 1	3
Inflammation of mucous membrane of bladder in . .	1
Hypertrophy of substance of uterus in 1; and ulceration of neck of ditto in 1 . . .	2
Adhesion of uterus to peritoneum lining pelvic cavity in .	1

The most constant appearances were as follows:—In the head, venous and arterial congestion, and effusion of serum between the arachnoid and pia mater. In the chest, marks of acute bronchitis. In the abdomen, congestion of mesenteric veins, and enlargement of Peyer's glands. The glands were most frequently bound at the lower end of the ilium in patches of an oval shape, varying from an inch to several inches in length.

G. H. SMITH, House Surgeon.

GLEANINGS DURING THREE YEARS SPENT IN THE INDIAN SEAS.

SWAN RIVER AND KING GEORGE'S SOUND.

FOR the following sketch, we are indebted to our friend Mr. William Barrett Marshall. Our readers will probably remember a notice of the medical establishment of the British Auxiliary Legion in Spain. This was from the same pen. Mr. Marshall, now one of the surgeons of the Kensington Union, has seen much in the Royal Navy of disease abroad, and has not only seen but observed it. We hope we shall be enabled on many occasions to introduce him to our readers.

Nosological Report, for the Town of Fremantle, in the Colony of Western Australia, from the Commencement of the Colony in 1828, *to December* 1833.

DISEASES.	Number of Cases.	Recovered.	Died.	REMARKS.
CŒLIACA.				
ENTERICA.				
Dysphagia Mulosa	Six.	Six.		
PNEUMATICA.				
PNEUMONICA.				
Bex Convulsiva .	Unknown.	Unknown.	Unknown	No case of this disease occurred in the Colony until after the arrival of the 21st Fusiliers. The children belonging to the detachment were affected on their arrival. A few of the cases proved fatal at Perth, but not at Fremantle.
HÆMATICA.				
PYRECTICA.				
Auctus Tertiana.	Four.	Four.	.	The subject of this complaint were all sailors, who arrived, sick, in the Colony.
PHLOGOTICA.				
Apostema empyema	Six.	. . .	Six.	The patients were Lascars, and brought the disease with them from India.
Empresma . . .				
Cephalitis . .	Twenty-six	Twenty-six	.	The attack was in every case slight; and yielded readily to the antiphlogistic treatment.
Pneumonitis .	Four.	Four.		
Gastritis . .	Two.	Two.		
Enteritis . .	Three.	Two.	One.	In two out of the three cases, the sufferers had been inmates of the Penitentiary at Millbank, and, while there, were attacked with the epidemic dysentery that prevailed.
Hepatitis . .	Five.	Five.		
Ophthalmia.				
O. Purulenta.	. . .	. . .	.	The number of cases was not to be obtained; every man in the Colony being said to have experienced the disease once at least. In a few instances, it has recurred a second time in

DISEASES.	Number of Cases.	Relieved.	Died.	REMARKS.
				the same individual;—the greatest sufferers were those of intemperate habits
Dysenteria. D. Acuta . .	1 Hundred and one	Ninety-five	Six.	From Sept 27, 1829, to Nov. 20th, 1833—average duration of the complaint, ten days—blood-letting indicated in only four cases.
DYSTHETICA.				
Marasmus Tabes	Three.	. . .	Three.	One of these cases was that of an invalid from India, the others were those of individuals who had the complaint before they came to the Colony.
Porphyra Simplex .	Forty.	Unknown.	.	Characterized by soft spongy bleeding gums; and aggravated by contractions of the joints. It commenced with the arrival of the first settlers, but is now a rare disease, not a case having occurred for 18 months; it proved fatal in numerous instances.
NEUROTIOA.				
PHRENICA.				
Ecphronia Mania	Six.	Two.	One.	The death was suicidal Two of the cases were removed from the Colony, and one is still afflicted.
ÆSTHETICA.				
Neuralgia faciei .	One.	. . .	.	
manus .	One.	One.	.	This case yielded to a course of dietetic and alterative remedies.
SYSTATICA.				
Carus Apoplexia	One.	. . .	One.	
ECCRITICA.				
CAOTICA.				
Paruria Retentionis	Fifteen.	Fifteen.		Ascribed to water-drinking, and dram-drinking both—the water of the place being very brackish: and the greater number of patients sailors, of alleged intemperate habits.

The data from which the foregoing Report has been drawn up were supplied me by the courtesy and kindness of Mr. Harrison, Assistant Colonial Surgeon. They refer almost entirely to Port Fremantle, and the district within which it is situated. Further particulars I failed to obtain from the Colonial Surgeon who resides at Perth, the capital of the territory—and this report, therefore, only conveys a partial view of the "ills to which flesh is heir" in the new settlement of Swan River.

The cases of dysentery and scurvy had their origin in privation and want, the earlier settlers having had more than an ordinary share of difficulties to contend with, and having been peculiarly improvident, or unfortunate, or, perhaps, both.

Here, as everywhere else, among civilized men, inebriety has added its multitude of victims to the sick list—and aggravated the diseases of others—and, in many more instances, indisposed the system to receive benefit from medicine where the disease itself has not arisen from intemperance. Many of the cases of paruria retentionis, empresma cephalitis, and opthalmia, were examples of this.

But, although the opthalmia which so universally spread among the settlers, assumed an aggravated character when occurring in persons of intemperate habits, its universality must be accounted for in some other way—and to do this is not difficult. Port Fremantle is built on a small isthmus, the sides of which are washed by the waves of the sea on the one hand, and the waters of "the Swan" on the other. The soil is a white sand, glistening with particles of rock-salt, and crystal, and constituting a mirror from which the glare of the sun is reflected upon the eye of every settler; the houses are, for the most part, built of lime-stone. The winds which set in, alternately, now hot from the land, and now cold from the ocean, lift up the finer grains of sand, and convey them over miles of sea and land by turns—these, touching the eye, irritate, and irritating, inflame. And these, being causes continually present, and universally applicable, will sufficiently account for the prevalence of so painful an affection, in the case of almost every settler in the Colony.

The temperature varying from the freezing point of Fahrenheit to 106°, and frequently differing more than twenty degrees in the same day—and the climate subject to sudden changes, the surprise is that there have happened so few cases of rheumatism. During H. M. S. Alligator's stay at Swan River, December, 1833, the thermometer ranged from 70° to 105° in the shade; the evenings and mornings being much colder than the intermediate portions of the same day. A hot land-wind prevails during the forenoon—a refreshing sea-breeze from the *cold* South sets-in in the afternoon; the latter is equally conducive to the health and convenience of the inhabitants, cooling the air they breathe, and facilitating their commerce with the interior by means of the principal river.

The numerous cases inserted in the report as cases of empresma cephalitis, can hardly, I should think, deserve so bad a name. I suspect they were cases chiefly of cephalia pulsatilis—arising from exposure to the sun, and principally occurring in persons of drunken habits; the symptoms being, sudden and violent headache, flushed face, vertigo, and sickness; but without delirium; continuing not longer, upon an average, than two or three days—and readily yielding to venesection, purgatives, and the application of refrigerant lotions to the head.

The above may serve to convey a tolerable estimate of the state of health in Western Australia, although a register only of diseases occurring in a single locality. Perhaps the modifications of disease in other places is slightly in favour of the inhabitants—as at Perth, the capital of the Colony, where the presence of the Government exerts a salutary influence over the habits of the settlers recommending temperance by its example, and repressing excess by its influence.

There is a colonial surgeon at Perth, A. Collie, Esq. R. N., with a salary of £200. per annum, and, of course, the private practice of the whole of the respectable families located there. There is also an assistant surgeon at Port-Fremantle, Mr. Harrison, who has the responsibilities of a surgeon, and the care of the gaol; with the duties of quarantine to attend to besides. Medicines are provided at the Government expense. A room has been fitted up at Perth for the reception of patients, and is sufficiently roomy during the infancy of the settlement, and the paucity of sick poor.

At King George's Sound, Mr. Lyttleton is the Colonial Assistant-Surgeon, with the pay and allowances of an assistant-surgeon in the Army—and at Port Augusta there is a third medical officer, with an allowance of five shillings per diem.

Besides these four medical men, who are permanently attached to the Colony, there were, in December 1833, two others, assistant-surgeons in the Army, Messrs. Davidson and Milligan, who accompanied detachments of His Majesty's 21st Fusiliers, and 63rd Regiment. There was also a private practitioner at Fremantle, who divided the practice of that place with the official one. Two others are said to be living elsewhere, not so much upon their professional earnings, as by their skill in agriculture—to which they have been obliged to turn for that daily bread which the practice of medicine failed to secure to them.

At King George's Sound, I requested Mr. Lyttleton's assistance to draw up an account of the diseases of Albany—and am indebted to him for the concise yet comprehensive intelligence, that all the diseases which have befallen the settlers there, had their origin in privation, or in excess. A testimony which speaks volumes for the climate.

Extract from the MS. Journal of W. B. Marshall, R.N., Author of "A Personal Narrative of Two Visits to New Zealand." London, 1836. *Nisbet.*

NORFOLK ISLAND.

On the wide-spread surface of our globe there is perhaps no one spot of earth where misery is rifer, or crime more abundant, than on the above island. At the time of my visit to it, in 1834, there were seven hundred and fifty prisoners, a hundred soldiers, and about fifty civilians. The whole island is, at one and the same time, a garden and a gaol. Vegetation is luxuriant in the extreme, and the surface of the country so diversified, that at every turn the eye pauses to enjoy scenes of natural beauty, unsurpassed by those of any other land. Earth, air, sea, and sky, are here all alike beautiful and salubrious. But man, in the emphatic language of one of the condemned malefactors, is man no longer here;—the natural wilderness is indeed a garden, but the moral garden is a melancholy desert, on which no flower is suffered to flourish, no fruit to ripen.

Of the Prisoners on the island, about two hundred had been capitally convicted at Sidney, constituting what is termed the respite gang. The remainder had all been convicted of crime in New South Wales, after having been sent from England under sentence of transportation. And almost every man on his arrival gives himself up to the recklessness of despair, considering his character irrevocably damned, and himself abandoned to utter wretchedness and everlasting shame. Under circumstances like these, it might be imagined that the depressing passions would affect the health of the prisoners, and more than counterbalance the salutary influence of military discipline, wholesome restraint, compulsory temperance, and the most healthy climate in the world. Not so, however, for there is an apparent elasticity in crime itself, which not only resists every attempt to overcome it, but has power to lift the chained and branded felon out of all sense of shame into a condition of heartless indifference and even joyousness. It will not therefore be matter of surprise, that there are more cases of counterfeit than of real disease—and that the average number of deaths by disease and casualties did not exceed nine annually, for three years together not more than one per cent.—of which, there were four by the hand of the executioner, and two by that of the murderer; while three men were shot, one in attempting to escape with a boat, and two accidentally—one was accidentally killed, and three more were drowned. Fifteen out of twenty-seven deaths, in three years, happening by other means than disease, reduce the proportion to less than one-half per cent. per annum. The daily average of sick, during the year 1833 did not exceed 31, or about one in thirty.

There is, nevertheless, an assistant-surgeon attached to the settlement, and also an assistant-surgeon attached to the troops. The former has the sole charge of the convict population and of the civil establishment—the duties of the latter being confined to the military.

There is also a small Hospital, with accommodations for forty patients, divided into five wards, a dispensary, receiving-room, dead-house, store-room, overseer's room, and cook-house. One of the wards, (all of which were very clean, and in excellent order, at the time of my visit), is appropriated for the reception of patients from the goal gang, as that portion of the prisoners is denominated, who, in addition to the crimes for which they were sent from England, and the crimes for which they were re-transported from New South Wales, have committed others on the island, and been punished with confinement to the goal.

The Hospital establishment consists of an Assistant-Surgeon, with the pay and allowance of an Assistant-Surgeon in the army—and, under him, a dispenser and overseer, a waterman, a wardsman, and a cook; all of whom are convicts

When I inspected it, there were only seven patients in the Hospital, and none of them wholly confined to bed. Besides them, there were a dozen out-patients who attend daily, for advice and medicine.

The men are dieted according to a prescribed scale, by daily direction of the medical officer, who varies it at his pleasure.

A diet list is hung up in every ward, alongside of a large board, on which are painted, as follow, the Commandant's orders :—

1st. No person whatever is to be admitted into the Convict Hospital, without permission from the medical officer.

2nd. Any officer's servant, or other person, going there to receive medicine, or on any other business, to stand outside the gate.

3rd. No orderly, or other attendant in the Hospital, is, on any account, to quit it without permission of the medical officer.

4th. The patients are not permitted to go either into the kitchen or the orderly's room, or any room but the ward to which they are appointed.

5th. The orderlies, patients, and all persons attached to the Hospital, are to receive and strictly attend to all regulations and rules, that the Assistant Surgeon may, from time to time, think necessary to institute.

6th. The gates of the Hospital are to be kept constantly locked.

7th. The overseers and orderlies are held responsible that these orders, as well as all others that may be given, are strictly obeyed.

8th. To insure the patients their diet, and what may be ordered for their comfort by the surgeon, and to prevent its being withheld by the attendants, a diet roll will be put up in each ward of the Hospital every morning, stating what has been ordered by the Assistant-Surgeon, that day, for each patient.

Nosological returns are sent in to Head Quaters at Sydney, for the use of the Colonial Government, monthly and quarterly.

Guy's Hospital.

Guy's Hospital Reports. No. 5, October, 1837. Edited by G. H. Barlow, M. D., and J. P. Babington, M. A.

The contents of this number are neither few nor unimportant. The School of Guy's Hospital has already, if we are not misinformed, derived some benefit from the publication of these reports. And so it should. We trust the time is passing by, when either pupils or practice will be obtained by the influence of puffing or party, by the humbug of a name, or the still greater humbug of a selfish and a spurious liberality.

The Schools of London, attached to the considerable Hospitals, are making great exertions to maintain, and to advance their characters. The material is enormously increased—the mode of teaching absolutely revolutionized—and the teachers themselves, under the operation of competition and necessity, are making unparaleled exertions. Could the most popular lecturers of twenty year's ago revisit a large metropolitan class-room, they would admit that, at all events the system was improved, whatever they might think of their successors personally.

Among the main advantages of a large school, we must place its connexion with a considerable hospital. From *it* emanates the instruction to be obtained both from the living and the dead. However excellent lectures may be, the student does not and cannot acquire his highest and most useful knowledge from them. He must have the means of dissecting the dead—of noticing and of personally cultivating the important and extensive facts of morbid anatomy—and, above all, he must have the opportunity of observing disease on a large scale. His lectures are only an introduction to the wards—if he cannot enjoy the advantages that they offer, he had best:

> " Break his pipe and never whistle mair."

To display the facts which the student of nature may witness in Guy's Hospital, has been the object of its medical officers. Their reports have been continued with regularity, and conducted with ability and zeal. The volumes they will form are sure to prove a valuable addition to the library of a practical man. We trust that the medical officers of the other hospitals to which large schools are attatched will emulate the example set by the physicians and surgeons of Guy's. We do not insist on the publication of reports in a distinct work. That plan has both advantages and inconveniences. But we do urge the regular publication of reports, in such a form as to ensure to the profession an acquaintance with the facts, which would else be all but buried in the institutions that contain them.

The part of the Reports of Guy's Hospital before us comprises the following papers :—

1. Observations on the Ganglionic Enlargement of the Pneumo-Gastric Nerve, &c. ; by Mr. Edward Cock.
2. Observations and Experiments on Lungs of New-born Children, in relation to Medical Jurisprudence ; by Mr. Alfred S. Taylor.
3. Cases of Gangrene, Aneurysm, Ununited Fracture, Hernia, Wound of the Tongue, and Stone in the Bladder; by Mr. Bransby Cooper.
4. On the Diagnosis of Organic Diseases of the Uterus ; by Dr. Ashwell.
5. Observations on Abdominal Tumors, and Intumescence; Illustrated by cases of Acephalocyst, Hydatids ; by Dr. Bright.
6. On the Influence of Electricity, as a remedy in certain Convulsive and Spasmodic Diseases ; by Dr. Addison.
7. Case of Disease in the Fœtus; by Mr. T. W. King.
8. On the Distribution and probable Function of the Superior and Recurrent Laryngeal Nerves, as demonstrated, by dissection, in the Human Subject; by Mr. John Hilton.
9. Description of the Sacculus or Pouch in the Human Larynx ; by Mr. John Hilton.
10. Account of the successful termination of a case of Sphacelated Intestine and Omentum in a Femoral Hernia; by Mr. Aston Key.
11. Mr. Morgan's Ophthalmic Cases.
12. Experiments and Observations on Albuminous Fluids; by Dr. Babington.

We shall select for notice in this article, the cases and observations of Mr Bransby Cooper. The Anatomical and Physiological papers will be considered in connexion with some recent anatomical works.

Cases of Gangrene, Aneurysm, &c. By Mr. Bransby Cooper.

A. *Dry Gangrene of the Hand.*—Samuel Harlow, aged 18, had never been strong, and had for some years suffered, in the Winter, from cough, attended with expectoration slightly tinged with blood. He always required good diet, and took meat and a pint of porter daily.

About three weeks before his admission, whilst planeing a piece of wood, he struck, with considerable force, the end of the nail of the right ring or third-finger, against a piece of lead placed upon the wood to steady it. This blow gave him pain at the root of the nail, shooting up the arm: after a short time, however, it became comparatively easy, and did not interfere with his work for more than a few minutes. On the following day, the root of the nail, and the skin for about a quarter of an inch above that point, had a bruised appearance, and felt cold and numbed, with little pain in the part; no swelling, pain, or tenderness up the arm or in the axilla; and he continued his work as usual, feeling himself quite well. He did not at the time apply any thing to the finger. This bruised or ecchymosed appearance, and the other local symptoms, did not appear to extend; but on the third day from the accident, the palmar aspect of the fore and middle fingers became gradually numbed, cold, and shrivelled, and whiter than the healthy fingers; and also very tender and painful, the pain being confined to the end of the fingers. The ring-finger, the original seat of the injury, now became affected above the parts which had the bruised appearance, and seemed inflamed as far as the second joint. In about a week, these local symptoms (without deranging his general health) extended, in all the fingers, as far as the second joint. At this time, when immersed in warm water, they lost their pale or white appearance, and became blue and more painful. They again resumed their death-like appearance, upon removing them from the artificial heat.

Four days before his admission, the thumb became affected as the fingers had been, and next day the little finger was affected too.

On Oct. 7, he was admitted into the Hospital. His aspect is exanguined and depressed—the whole body cold—tongue furred—pulse at the left wrist 92, and sharp—pain in the right arm below the elbow and hand.

The fingers and thumb present a livid hue, extending up the palm of the hand: this lived aspect is not intense at the extremities of the 1st, 2d, and 3d fingers, but at the other parts. The skin has a deep-mottled appearance; the fingers are cold as high as the first phalanges, and swollen; but the end of the finger which received the original injury is shrivelled and black, and in the condition of dry gangrene. He has no sensation on the dorsal aspect of the hand below the first phalangeal articulations. The sensation of the parts supplied by the cutaneous branch of the median remains pretty good, but no where so good as in the other parts of the body. Below the palm, the sensation is lost, except on the little and ring finger, where pressure may be felt. The brachial artery, at the upper part, feels somewhat cord-like, apparently from the thickening of its coats; and, on tracing it downwards, it becomes more so; and the pulsation, after gradually diminishing, ceases at the elbow about two inches above its division into ulnar and radial, where it appears solid, without pulsation. The solid condition may be traced along the two first inches of the radial artery, where it disappears; but it is again recognised about three inches above the wrist; and from that point continues so, throughout its distribution, as far as they are tangible. No pulsation can be felt in the ulnar artery: it also feels solid from below the wrist, to about three inches above: and just above where the solidity terminates, he complains of severe pain when the course of the artery is pressed upon.

On examining the right subclavian, about an inch to the outside of the scalenus, there is a rough sawing noise audible. A small enlargement, probably a gland, is felt under the vessel.

The treatment prescribed was good diet—local warmth—aperients—and narcotics.

The gangrene extended slowly, and the cessation of pulsation in the brachial artery was noticed higher. There was much pain in the hand. On the 20th of October, the cuticle, just above the two first metacarpo-phalangeal joints had become greenish. On the 22nd, a line of separation had commenced. On the 27th a similar line was discoverable in the palm. On the 2nd of November granulations had sprung up. On the 11th, Mr. Cooper removed the hand at the radio-carpal joint. No arteries required to be tied, as the radial and ulnar were filled up with coagula; although the anastomosing branches bled sufficiently freely to lead to the hope that the stump would heal.

The stump suppurated, but ultimately did well. On December 6, upon careful examination, the profunda artery appears very much enlarged, and may be distinctly felt pulsating; and the radial also has resumed its function, although the pulsation in it cannot be felt so distinctly as in the left wrist.

He was discharged from the hospital, quite cured, on the 6th of January 1837.

The simplest explanation of this curious case, is, perhaps, the following:—that local injury excited inflammatory action which in a person of a peculiar and enfeebled constitution terminated in gangrene. What share the pressure of the enlarged gland in the axilla upon the subclavian artery exerted in the production of the phenomena which were observed, it is difficult to determine. Mr. Cooper is of opinion that:—

"Some slight degree of absorbent inflammation extended up the arm, and led to glandular enlargement in the axilla and above the clavicle: in the latter position, a tumor, like an enlarged gland, was soon discovered behind, but pressing upon the subclavian artery, which in itself might have been sufficient to lead to inflammation of its internal coat, the effusion of lymph, and its ultimate obliteration. It is difficult to believe that inflammation of the artery should extend from the hand up to the axilla, without much more constitutional irritation, and the loss of the whole limb from sphacelus; for, in that case, the obliteration of the vessels would have extended successively from below upwards; while, on the contrary, here the cessation of pulsation was from above downwards: and therefore we have more reason to believe that the disease in this boy was induced by pressure upon the artery, rather than by any specific disease of its internal coat; although, perhaps, it cannot be denied, from the peculiarity of his circulation, that there was some constitutional tendency to sub-acute arteritis."

B. *Ununited Fracture—Influence of Mercury.*—A healthy-looking young woman aged 28, was admitted, March 9, 1836, with an ununited fracture of the left humerus, just below the deltoid muscle.

Six months previously, when in good health, she was thrown from a cart, and received the fracture. Splints were applied, but at the end of eight weeks there was no union. The splints were replaced, and the arm bound to the side for a month. There was still no union. The apparatus was replaced with the addition of an iron splint, extending from the outer side of the humerus to the wrist, being bent at an acute angle: and the arm was, as before, bound to the side.

This plan was also persisted in for a month, but with no better effect. The surgeon, still unwilling to give up the case in despair, made one other attempt, by applying a bandage tightly round the arm; and, placing wooden splints over it, compressed them to the utmost the patient could bear, to which she submitted patiently for two months; at the expiration of which period, the fractured extremities of the bone were found as moveable as ever.

On admission, the two portions of bone moved readily upon each other, but without producing any thing approaching to the sensation of crepitus: on the contrary, the mobility of the part conveyed the impression of the formation of a supernumerary joint, and the muscles were capable of producing some voluntary motion. Mr. Cooper proposed the introduction of a seton between the ends of bone. This was done on the 23rd of March. On the 25th, there was some fever, and local irritation. But the seton failed, after a trial of ten weeks. Then a bandage dipped in a composition of egg and flour was worn—then the limb was enveloped in plaister of Paris. Neither plan succeeded.

"About this period, Mr. Colis, from Dublin, paid a visit to Guy's Hospital: and, in going round the wards, Mr. Cooper drew his attention to the case in question. He said he had seen the administration of mercury, continued until it produced ptyalism, lead to the consolidation of ununited fractures, after all other means had failed; and quoted two cases in illustration of the assertion. The patient was accordingly immediately ordered four grains of Hyd. c Cret. three times a-day; and a well-padded leathern girth, furnished with straps and buckles, was firmly applied immediately over the seat of fracture. In four days, ptyalism was produced, and the quantity of mercury was diminished. On the sixth day the powders were suspended, as she suffered severely from their effects. The leathern girth was worn a month; and upon its removal, perfect union of the bone had taken place; affording satisfactory proof that the mercury had produced an altered action on the capillaries of the affected part, and exemplifying the powerful alterative influence of that metal. She remained in the Hospital six weeks after this happy result, to regain her strength: when she was discharged as cured, and with a perfect use of her arm.

Three months after her departure, she was again admitted into Guy's Hospital, for a fracture of the same arm, produced by a violent blow, inflicted by a man running with great velocity against her, and knocking her down. Upon examination, it was found that the humerus was fractured rather below the seat of the former injury: all the usual concomitant symptoms of simple fracture were present, as crepitus, &c.; and by the application of the same girth which had been employed on the former occasion, the bone united at the usual period, without the exhibition of mercury."

c. *Fatal Hæmorrhage from Wound of the tongue.*—A strong young man, aged 20, was admitted Sept. 4. He stated, that, three days before, he was smoking with a fellow-workman, when, by accident, the elbow of his companion came in contact with the bowl of his pipe with great force, and drove its narrow extremity into his tongue, breaking off about three inches of the pipe: he immediately sat down upon some steps, suffering excruciating pain, and fainted away. At the time of admission, a wound was perceptible, passing obliquely through the tongue, from the right to the left side. There was no hæmorrhage from the wound; but the tongue and fauces were much swollen. A swelling of considerable size existed, just behind the angle on the left side of the jaw. A surgeon had examined the wound, immediately after the accident, who could not discover that any portion of the pipe remained in the tongue; and this was also the patient's opinion. Leeches were applied to the swelling, and a cathartic draught was prescribed. The following day he seemed much relieved; and already the wound in the tongue had closed. On the 5th, the tongue could be drawn into the mouth; and his speech and deglutition were much freer.

Sept. 6. He discharged from the nose and mouth about a pound of blood; which was a dark coagulum, and appeared to be thrown off from the stomach. He seemed much reduced by this loss of blood, which recurred on the 8th and 10th of September. On the 12th, he had become excessively reduced; and might be said to be in a perfect state of anæmia. No wound could be discovered in the tongue, or any where in the mouth, to point out from whence the hœmorrhage proceeded. There was, however, so much swelling about the tongue and fauces, and the jaw could be but so imperfectly depressed, that only a very unsatisfactory examination could be made of the parts, and the source of the bleeding still remained in obscurity; nor was there any evidence of the presence of a foreign body in the inflamed parts.

Plumb. Acetat. gr.3-4, Pulv. Opii gr. ½. M. ft. pil. quâque quartâ horâ sumend.
Acid. Sulph. dil. gtt. xv. Inf. Rosar. ℥iss. M. ft haust. ter die sumend.

14. He appeared to be sinking fast; and ejected a considerable coagulum from his stomach during the visit; which reduced him to so low a state, that transfusion was contemplated, but relinquished in consequence of the patient's rallying in the afternoon. Two grains of the sulphate of quinine were now ordered to be added to the infusion of roses and acid, and an alum gargle directed to be employed.

15. He died at seven P. M. almost immediately after a discharge of blood from the mouth, which was still brought up as a coagulum from the stomach; although there never was any bleeding into the mouth, as if from thence the blood issued.

Dissection. The surface of the body was in an exsanguined state. On injecting the carotid arteries with fine injection, the coloured fluid flowed copiously from both nostrils. particularly from the left. A small irregular opening was discovered, just behind and below the left tonsil, appearing as if produced by the penetration of a piece of tobacco-pipe; and there was also discovered a cicatrix on each side of the tongue, marking the situation of the former wounds. A portion of the extreme end of the pipe, two inches and a half in length, was found imbedded within the substance of the tongue. The extraneous body could not possibly be seen, or even felt from within the mouth. The external carotid and all its branches, and the internal for more than an inch from its origin, were pefect:-even the lingual artery had escaped injury. There was a small coagulum, mixed with mucus, in the stomach, and a firm dark clot of blood was found, extending the whole length of the respiratory tube, filling even the smallest divisions of the bronchi, although no traces could be discovered from whence the blood issued. The lungs were in a remarkable state of emphysema.

It is to be regretted that the carotid artery was not tied in this case. But the circumstances were so peculiar that hesitation in regard to the treatment may very well be excused. The case is certainly an interesting one, and may serve as an indication of what is most advisable, should a similar one occur hereafter.

D. *Oxalate of Lime Crystallized on the Surface of a Calculus.*—In the case of a boy, aged seven years, who had laboured under symptoms of stone for six years, and was operated on by Mr. Cooper, the stone was covered with crystals. The dimensions of the calculus were—length 1 inch; thickness 9-16ths of an inch—breadth 13-16ths of an inch. Dr. G. D. Rees examined it, and reported that:—The surface of the calculus is thickly studded with bright transparent crystals, which are desposited on a dense semi-crystalline layer of calculous matter. From the application of chemical re-agents, on which we need not dwell, he concludes:—

"We thus prove the existence of an organic acid in the crystals; which is combined with lime, and yields the carbonate of that base on being heated to redness. It having been proved that lithic acid did not exist in these crystals, and the only other organic acid which is detected in urinary concretions being the oxalic, I could not but conclude that, in all probability, oxalate of lime had assumed its crystalline form on the surface of this calculus; and, on continuing my examination, this curious fact was placed beyond a doubt. The acid was procured in combination with the oxide of silver, by precipitation of the nitrate of that base: the precipitate was white, deflagrated on the application of heat, and underwent all the re-actions of oxalate of silver. The solution of sulphate of lime is precipitated by the acid procured from these crystals, when digested in a weak solution of potash which has been allowed to become partially carbonated. The precaution of neutralizing the liquor is necessary in this experiment.

The semi-crystalline layer, on which the crystals are deposited, is composed of oxalate of lime, with a minute proportion of phosphate of lime.

The third layer from the surface consists of carbonate and phosphate of lime, with lithic acid.

It being impossible to saw this calculus without destroying the crystals, the nucleus and deep layers are not examined.

E. *Popliteal Aneurysm—Second Operation.*—Signor Marani, aged 30, consulted Mr. Cooper, on account of a small aneurysmal tumor, situated in the lower part of the left popliteal space. It appeared that in the preceding August he had had the femoral artery tied for the aneurysm by Mr. George Greeves, of Manchester. The swelling never subsided, a small pulsating tumor always remaining. Mr. Greeves, in a letter to Mr. Cooper, observed:—

"There were some peculiarities in the case, which I ought to mention: one was, the early return of pulsation in the tumor, which occurred within twelve hours after the operation; although, when the ligature was tightened during the operation, the pulsation ceased entirely, and the sac instantly became almost imperceptible; proving, I think, that it could contain few or no coagula. Another peculiarity was, that the circulation in the limb below the ligature became almost immediately re-established: the temperature fell but little at first; and afterwards, never rose above the natural standard. Sensation also was far less interfered with than I have observed it to be in other cases; and I have positively seen more disturbance of the circulation in the hand and fore-arm; from the tightness of a bandage after venesection.

That the femoral artery was tied, I have no doubt whatever: and Mr. Hunt, my colleague, who is an excellent anatomist, as well as Mr. Wilson, my assistant, declare, that if ever they saw a ligature put upon an artery, it was in this case. I can only conceive two modes of explaining the return of the disease; namely, extraordinarily free anastomoses, or an irregular distribution of the vessels of the thigh. To the former opinion, most of my friends are inclined; but Mr. Cussack of Dublin, who saw my patient when Signor Marani was obliged to make a visit to Dublin, leaned to the latter."

On a close examination of the limb, Mr. Cooper discovered, in the course of the cicatrix, the pulsation of a vessel, but certainly not of a healthy or natural-sized femoral artery; nor did any degree of pressure upon this trunk or branch command the pulsation of the aneurysmal tumor. In the lower third of the thigh, just where the femoral artery perforates the tendon of the adductor-magnus muscle, the pulsation of the artery was very perceptible; and pressure here immediately stopped the flow of blood into the tumor. It was in this situation, that Mr. C. proposed to tie the artery a second time. This he did with some little difficulty, tracking the vessel to the popliteal space. Immediately the ligature was applied to the artery, the pulsation in the tumor ceased, but in a few minutes became again as distinct as before the operation; no other artery, however, could be discovered.

Some febrile excitement followed the operation. On the 20th, bloodletting was requisite, as was its repetition on the 21st. On the latter day, the pulsation in the tumor had entirely ceased, although every other tangible artery in the body pulsated strongly. The sac was quite empty, as if no coagula had formed in it. On the 26th, the compress was removed from the aneurysmal tumor, and not the least pulsation was discoverable; yet the sac seemed to be filled with fluid blood, which could be pressed out of it. The compression was, therefore, reapplied with more force than before.

On the 22nd day after the operation, the ligature separated from the artery. He remained in bed two days after this, when the wound was found to be nearly healed. He was now wheeled into an adjoining room on a sofa, an exertion which, for two or three days he supported well enough. On the fourth day he complained of some burning sensation in the cicatrix from the wound of the first operation; and, upon examination, a considerable blush of inflammation was perceptible upon the upper part of the thigh. A large poultice was applied; and, in a few hours, the whole length of the cicatrix gave way, allowing the escape of a considerable quantity of matter. The discharge, however, continued but for a few days; and upon the application of a dossil of lint, and strips of adhesive plaster, assisted by the administration of a generous diet, in less than a week the wound had again perfectly healed.

Mr. Cooper subsequently saw Signor Marani twice, the latter time in consultation with Sir Astley Cooper. The patient suffered from an inordinate action of the heart and arteries, from the slightest mental excitement. At Sir Astley's suggestion, the muriated tincture of iron was prescribed. In a few days the arterial system became calm, and the patient was enabled to go to the sea-side. In a fortnight, he returned to town perfectly well.

The following is Mr. Cooper's suggestion respecting the actual condition of the vessels in this interesting case.

"If a considerable unusual branch had been given off by one of the perforating vessels of the profunda artery, and had taken its course at the back part of the thigh, so as to enter the popliteal artery in the ham, immediately above the sac, it would necessarily occur, that the application of a ligature upon the femoral artery, below where the profunda is given off, would not prevent the flow of blood into the aneurysmal tumor; and that, therefore, the second operation became necessary. Such a distribution, accompanied also by the obliteration of the femoral in consequence of the operation of Mr. Greeves, sufficiently accounts for the circumstance of my not meeting with the artery in the usual situation of perforating the triceps muscle; while the pulsation in the cicatrix of the original wound might have occurred, either from the enlargement of some muscular branch, or from a high division of the anastomoticus magnus. This explanation will also accord with the fact, that the deeper dissection into the popliteal space, during my operation, led me to the main trunk supplying the aneurysmal sac; while the pulsation, which returned for a time, shews that the ligature was placed above, and so near the abnormal communicating artery, as to lead ultimately to its obliteration: then, and not till then, the pulsation in the tumor ceased, and a cure of the disease was effected."

ST. GEORGE'S HOSPITAL.

This extensive and well conducted Hospital presents annually wide opportunities to its officers and students for the observation of facts. Amongst those officers, Sir Benjamin Brodie has ever been distinguished for his professional zeal. Oppressed, we may say, with the most extensive private practice which even the rank and wealth of a Metropolis gives, he is yet to be found punctually at his post, delivering a regular and extended series of clinical lectures, and giving to the students, who naturally crowd around him, that practical knowledge which familiar conversation and oral instruction can convey. This is as it should be.

Sir Benjamin Brodie's clinical lectures are published in an authentic form in our contemporary, the Medical Gazette. This precludes a copious notice of them upon our part. But we shall select a few passages, and facts, and present them in a single group.

We trust that the clinical reports from such a Hospital as St. George's, will be more extended and more systematic than they are at present. There is no great reason for complaint on this score, it is true. From no Hospital in London, perhaps, scarcely even excepting Guy's, are there more reports. But we should wish to see them systematised, and by means of the weekly and the quarterly journals, by frequent and by more elaborate modes of publication, we should desire to see our brethren throughout the country informed of what is going on within the walls of so noble an institution as the New Hospital is.

1. Division of the Tendo Achillis. Is it a New Operation?

The next patient brought in was a little boy of six years of age, whose feet had been deformed from birth; the foot being in both cases turned in, and rotated upwards and inwards, while the toes were at the same time kept pointed by contraction of the tendo Achillis. Mr. Keate inserted a narrow knife, with the flat surface between the skin and the tendon; then turning the edge towards the tendon, it was cut across by the knife, the heel being at the same time drawn downwards, so as to separate the divided ends from one another. An instrument was then fastened upon the foot, so as to inclose it in a strap and kind of shoe, while an iron went up the leg on each side, and was buckled round the leg just below the knee. The shoe part was so contrived as to stretch the back of the leg, and allow of its being still more extended, if necessary, afterwards. The little fellow bore both operations without a single exclamation, and hardly even moved during the time. Mr. Keate afterwards explained the case to the students, and remarked that he had lately seen or heard of this operation having been revived as a new discovery, but that he had often seen it done, and as long as *five-and-thirty years* ago; and that he believed it generally succeeded very well.—*Med. Gaz.*

The report is imperfect. It would lead the reader to suppose that the operation now so frequently performed was formerly very common and succeeded well. Then, why, the reader asks, had it fallen into disuse? Mr. Keate, we believe, said he saw it performed many years ago. He did not say that he saw it often performed; indeed we have reason to think that he did not. But the operation that Mr. Keate saw was *not* the operation now in use—for, in the former, the skin was divided as well as the tendon, and in the present operation it is not divided. This makes a vast difference.

2. Treatment of Varicose Veins of the Leg.

First, says Sir Benjamin Brodie, enjoin rest and the horizontal posture.

Secondly, you may, if there is inflammation, bleed in the saphena vein.

Thirdly, leeches may be requisite. Apply them not *to* the inflamed part, but at a little distance *from* it.

Fourthly, the skin excoriated, some application may be necessary. The zinc ointment or calamine cerate answers very well; but we use, in the hospital, a preparation known with us by the name of compound chalk ointment, which is much preferable. It is, if I am not mistaken, now introduced into the Pharmacopœia under the name of Ung. plumbi compositum. It is an excellent application in these and other cases where the surface of the cutis is deprived of the cuticle. The ointment was invented by Dr. Kirkland, a celebrated practitioner many years ago in Leicestershire, and I believe it was commonly known under the name of Kirkland's neutral cerate. It is composed of diachylon plaster, olive oil, chalk and distilled vinegar. How it should have ever entered into any man's head to make such a composition as this I do not know, but the composition having been invented I must say it is a very useful one. The ointment should be spread on linen rag, and applied in stripes round the leg, each stripe over-lapping the one below. In some cases, in addition to the use of chalk ointment, you will find advantage from washing the surface with a weak solution of nitrate of silver, in the proportion of two or three grains to an ounce of rose water. A strong solution would here be improper, but a weak solution is very useful.

Fifthly, when inflammation and swelling are reduced, pressure is requisite. The pressure of a common roller will do a great deal of good, and formerly nothing else was recommended. But we find, now, that in cases of varicose ulcer, as in cases of indolent ulcer of the leg, you may very much assist the common roller by addition of other means. One very good way of making pressure on a varicose ulcer is to interpose belween it and the bandage a piece of sheet lead, such as is used in anatomical museums for covering preparations. The lead should be made quite smooth, and larger than the ulcer, extending some way beyond its margin. This makes a very uniform pressure, and really does very well. But for the most part we are in the habit of using pressure by means of plaster applied in a circular manner round the limb. It is common to employ stripes of linen spread with soap or adhesive plaster, but I own that I very much prefer diachylon plaster, for both soap plaster and adhesive plaster will frequently irritate the skin, and bring on inflammation and pustules, but diachylon plaster scarcely ever produced this effect.

In the first place the stripes should be applied round the limb, the two ends crossing each other in front, the application beginning below the ulcer, and extending some way above it. Each of the stripes ought to overlap the one below by one half of its diameter. Thus every part has a double piece of plaster over it, and you secure more equal pressure than you could otherwise obtain. It is of great consequence that the plaster should be tight enough to give comfortable support to the limb, and at the same time not so tight as to make the limb swell below; for if it does produce this effect, it is very likely that it will bring on a sloughing of the sore. The plasters ought to make uniform pressure—that is, the pressure should be equal throughout; or if there be any difference in the degree of pressure, it ought to be greater below than above. If you do not attend to this point, the plaster above operates as a tight garter, and makes the parts below swell.

When you apply the plaster, it should always be with the heel raised, the patient lying flat on his back, so that the vessels of the leg may be emptied of their blood. The same plan should be adopted when the plaster is taken off. If the leg be hanging down at the time the plaster is applied, the veins are full of blood, and the plaster becomes too loose as soon as the patient puts his leg up.

Frequently, the veins just above the heel, and behind the ankles are swelled. *Then* some stripes of plaster should be applied round the lower part of the heel, extending upwards in a longitudinal direction on each side of the leg. Let these be held firmly on while you apply the circular stripes over them, in order to keep them in their place. In this case also, in the application of the bandage, you ought to pursue the same course: a longitudinal bandage, extending under the heel and up each side of the leg, should be applied first, and this covered by a circular bandage afterwards. These may appear matters of little importance, but a great deal of your success in practise will depend on attention to such minutiæ.

Do not, says Sir Benjamin, apply dressing on lint to the ulcer. The plaster itself is the best application.

Sixthly. Sir Benjeman does *not* recommend ligature or division of the vein. He has seen serious, even fatal symptoms from both, and he has *not* seen such benefit as to warrant either.

Seventhly. Sir Benjamin thinks it right in some cases to divide, not the great venous trunk, but the vein or veins returning the blood from some particularly enlarged cluster to that trunk. Supposing, says he, I intend to cure a particular cluster of veins, I use a sharp-pointed bistoury, which cuts, not like a common bistoury, on the concave, but on the convex edge. I puncture the skin with this instrument on one side of the varicose cluster; I carry the blade under the skin, between it and the varicose veins, over to the other side of the cluster; and having carefully performed this part of the operation, the skin over it remaining entire, except where the first puncture was made, I turn the edge of the instrument backwards, and drawing it out, cut across the cluster. A good deal of hæmorrhage follows, but the pressure of a compress commands it, and a bandage is applied afterwards. The wound, in most instances, heals by the first intention. But he admits that there are few cases only in which it is worth the patient's while to submit even to this.—*Med. Gazette.*

3. TABLES AND CALCULATIONS RELATING TO RHEUMATISM.

By Dr. R. M'LEOD.

Tables and Inferences drawn from 150 *Cases of Acute, Chronic, and Capsular Rheumatism, treated at St. George's Hospital.*

A. *Liability of different Ages.*

Cases of acute rheumatism, Males, 55; Females, 30. } 85

Ages.	Males.	Females.	Total.
10 to 15	1	0	1
15 to 20	9	10	19
20 to 25	9	4	13
25 to 30	15	7	22
30 to 35	8	3	11
35 to 40	8	0	8
40 to 45	3	2	5
45 to 50	1	0	1
50 to 55	0	2	2
55 to 60	1	2	3

From this table it would appear that in both sexes from 15 to 30 is the time of life most obnoxious to acute rheumatism, 54 out of 85 cases having occurred within the period specified.

B. *Duration of Complaint.*

Periods during which the Cases of Acute Rheumatism were under treatment.

Cured.		Died.
In 5 days .	1	Of pericarditis, 2: viz. at the end of three days, 1; at the end of three months, of a second attack, 1.
In 8 days .	6	
In 10 days .	4	
In 12 days .	4	
In 2 weeks .	7	
In 3 weeks .	22	
In 4 weeks .	14	
In 5 weeks .	3	
In 6 weeks .	9	[Date of discharge not recorded in 3.]
In 8 weeks .	6	
In 10 weeks	1	
In 16 weeks	2	

It thus appears that 58 out of 82 cases were discharged cured within a month; and when it is kept in mind that it is the custom of the hospital not to send out patients who have had acute rheumatism as soon as they cease to complain of pain, we may safely assert that the number specified were cured in little if at all exceeding three weeks. But 44, or rather more than one-half, were actually discharged within three weeks; and certainly the great majority of these were free from complaint at the end of a fortnight.

C. *Occurrence of Pericarditis.*

Of the 85 cases of acute rheumatism above alluded to, the heart was implicated in 18, or rather more than one-fifth.

But of the total number of patients, 55 were males, and only 30 females. Now of the men not more than seven had pericarditis, whereas of the woman, eleven, or about one in three, had symptoms indicating that condition.

Of the eighteen cases in which the heart was affected, there was only one in which the pain of the limbs was simultaneously so alleviated as to give the least colouring to the idea of metastasis. In seventeen of the cases alluded to, the heart-affection was preceded by rheumatism of the limbs; in one case the pericarditis came on first, and the rheumatism of the extremeties subsequently, but within twenty-four hours.

The following are the ages of those who had rheumatic pericarditis :—

Age.	Males.	Females.	Total.
10 to 15	1	0	1
15 to 20	2	4	6
20 to 25	2	4	6
25 to 30	1	2	3
30 to 35	1	0	1
55 to 60	0	1	1
	7	11	18

Dr. M'Cleod is inclined to think from his dispensary experience, that rheumatic pericarditis is more frequent in the young, than in those more advanced in years.

Of those referred to in the preceding table of cases of acute rheumatism, but one was under 15 years, and he had pericarditis. Of cases in subjects between 15 and 20, there were twenty; and of them six had pericarditis. Between 20 and 25 there were thirteen; and of them six had pericarditis. After this the proportion diminishes, for while there were twenty-two cases of acute rheumatism between the ages of 25 and 30, yet they give but three cases of pericarditis ; 30 to 35 give ten cases of rheumatism, and one of pericarditis ; 35 to 40 give eight cases of rheumatism, and none of heart-affection.

We pass over chronic rheumatism, and pause at *Synovial Rheumatism.* Of this there were 23 cases—16 in males—7 in females.

Ages.	Males.	Females.	Total.
15 to 20	1	0	1
20 to 25	1	1	2
25 to 30	2	1	3
30 to 35	3	2	5
35 to 40	1	1	2
30 to 45	2	1	3
45 to 50	3	0	3
50 to 55	2	0	2
55 to 60	1	0	1
60 to 65	0	1	1

According to this table, capsular rheumatism would seem to be considerably more prevalent among men than women, and much more equally diffused over different periods of adult age, than the form of the disease first described.

Periods during which the Cases of Capsular Rheumatism were under Treatment.

3 weeks. . . .	3	7 weeks.	2	3 months. . . .	2
4 do	3	8 do	5	4 do	1
6 do	4	10 do	2	6 do	1

The most remarkable circumstance in this table is the length of time during which the patients were under treatment, as compared to the other forms of the disease. Of the cases of acute rheumatism, as we have seen, more than one-half were discharged within three weeks; whereas here the number discharged in the same period scarcely exceeded 1-8th. Again, of the acute cases, less than 1-9th remained so long as two months in the hospital; whereas, of the synovial cases, within a fraction of one-half were in the hospital two months and upwards.

Of the cases, three were fatal,—viz. one from suppuration in the joints at the end of two months; one from pleurisy, at the end of seven weeks: and one from inflammation of the encephalon, at the end of three months.

The cases of periosteal rheumatism which have occurred within the period in which the above relates, amounts to 10; and those of arthritic or rheumatic pain, following the course of particular nerves (all of the lower extremities), to 7;—numbers too small on which to hazard any general inferences.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

ILLUSTRATIONS OF PHRENOLOGY.

Prefatory Remarks.—In one of the recent numbers of this Journal, we gave an account of a discussion on phrenology, which took place a year or so ago at the Royal Academy of Medicine in Paris. That it attracted some notice from the friends of the science in this country, appears from the circumstance that it was transferred entire to the pages of one of our most respected cotemporaries.

Perhaps, however, the chief value of the report consisted less in the originality or perspicuity of the speeches which were delivered by the different members, than in the proof that was thus given of so many able men in the French metropolis having, of late years, assented to and embraced the fundamental positions of phrenology. The readers of the Lancet are well aware that M. Broussais has delivered an admirable course of lectures upon the subject, full of ability and enthusiasm, and on the whole exhibiting a pretty fair view of the present state of the science. He is one of the most active members of the Phrenological Society of Paris; and in addition to this distinguished teacher, we may mention the names of Andral, Bouillaud, Adelon, Ferrus, Amussat, and of several other distinguished physicians and surgeons in the French metropolis, as ranked among the friends and supporters of Dr. Gall's physiology of the brain.

Now, although we must confess that we are not inclined, on many occasions, to be very much biassed by the opinions and reasonings of our lively neighbours upon subjects which require much laborious and patient inquiry, we are nevertheless bound to admit that the authority of such men, as we have now mentioned, is more than sufficient to exact, if not assent to, at least an unprejudiced examination of, any doctrine which they view with favour. Independently of this consideration, the mere circumstance of Drs. Gall and Spurzheim's system having stood for so many years against the most vehement and determined, not to say the most scurrilous and unfair, attacks of wit, ingenuity, and malice, has been to our minds a sort of *a priori* argument, of no trifling weight, in favour of its probable truth.

It is due, however, to our readers that, as we now introduce the subject to their notice, we should confess that we are very far from being satisfied of the correctness of many of the positions which we find inculcated by almost all the professed advocates of phrenology up to the present day. There is an insufficiency of groundwork, a feeble and even flimsy mode of illustration, and withal so rapid and incautious a tone of decision upon not a few of the most uncertain details of the science, that we have been often utterly surprised at the unhesitating manner in which they have been announced and insisted upon. On this, as on many other subjects, the injudicious support of friends has been perhaps more injurious to the cause of truth than the open attacks of the enemy. To us it seems that the leading error of the phrenologists has been all along to assume as proved many details which, although they may be rendered probable by some observations, ought still to be considered rather as queries than axioms.

The only plan to arrive at any accuracy on these uncertain points is to examine the book of nature, by collecting exact casts of multitudes of characters, distinguished by strong and indisputable development of certain faculties. Until the science is studied in this manner only, and its disciples shew a more uniform spirit of caution, and more exact spirit of reasoning in all their inquiries, we much fear that they will long fail of making many converts among the students of philosophy. While, however, we think that there is much conjecture and mere fanciful speculation in many of the details of phrenology, we do not hesitate to assert that the fundamental doctrines of the system appear to us to be strictly in accordance with the truth.

If it be asked what we mean by the fundamental doctrines, we have no difficulty in replying thus; that the great divisions of the encephalon seem to exercise different functions in reference to the attributes of the mind;—that one part, the anterior, is intimately connected with the development and operation of the intellectual faculties; that the upper part is connected with the higher sentiments, or with such as are peculiar to man; and that the posterior and lateral portions are connected with the lower feelings, which are common to man and to animals.

We do not mean to say that we can point out the exact line of separation between each particular organ of these various powers or faculties of the mind. Much indeed has already been done by the labours of Drs. Gall and Spurzheim in this curious field of inquiry; and the very striking accuracy of many of their observations cannot, we think, be fairly gainsayed. For example, we deem it more than probable that the sexual propensities are associated somehow or other with the cerebellum; that the fierce, pugnacious, and revengeful feelings are connected with that portion of the cerebrum which is situated above and behind the ear; that self-esteem usually predominates in those persons in whom the crown of the head is lofty; that the higher principles of justice, benevolence, and of veneration, are generally more active and more powerful when the space between the forehead and the vertex is ample and large; that great breadth and expanse of the upper part of the forehead is almost always indicative of strong reasoning powers; and that the perceptive faculties of the mind are quick and energetic, when the lower part of the forehead, immediately above the eyebrows, is prominent and full.

The probability of some of these positions is very beautifully illustrated by many of the results of comparative anatomy. We know, for example, that there is a much greater proportional breadth and fulness of the cranium behind the ears in all carnivorous, than in any herbivorous animals. We have only to place the skull of a cat or dog beside that of a sheep and a hare to satisfy ourselves of the truth of this statement. We know of no exception to this law: it appears to be uniform, and therefore undeniable.

Again, if we compare the skull of a monkey with that of any other of the lower animals, are we not forced to acknowledge that the anterior part, the os frontis, is always much higher and more prominent in the former than in the latter? If this be the case, is it not reasonable to suppose that this configuration may very possibly be connected with the greater amount of intelligence, which all the ape tribe are endowed with?

Who is ignorant of the sagacity, intelligence, and attachment of the dog? and is not its anterior lobe always much fuller and larger than in any of the feline race, the characters of which shew how inferior they are in these attributes?

No candid person can deny the truth of these facts, however much they may feel inclined to question the accuracy of the conclusions, which we are inclined to draw from them. Many, we know, have been unwilling to yield their assent to any of the doctrines of phrenology, on the ground, as they allege, that they savour of materialism. But we have no intention to canvas this matter.* The truth of phrenology must be tried and tried only by a direct appeal to nature, or in other words by a cautious and accurate examination of the correspondence—if such actually exists—between certain physical developments and certain mental endowments. We have already alluded to the form of the cranium in certain tribes of the lower animals, as indicative of certain peculiarities of character and temper. The same, in our opinion, holds true in reference to our own race. That there is a natural and original difference of disposition, feeling, and intellectual capacity in different children, before education can have at all swayed or biassed their characters, is, to us at least, as undeniable as that there is a diversity of outward feature and figure. Are not some hasty, irascible, and revengeful? are not others mild, inoffensive, and patient of injury? is not one selfish and self-confiding, and is not another full of affection, and all the kindlier feelings? Are not some quick to learn, apt to remark, and lively in all their little fancies and imaginings? and are not others of the same nursery slow, and dull, and thoughtful? Does not one child shew a marked taste or talent for music, another for drawing, a third for cleverness at handiwork, a fourth for mimicry, and so on?

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* There is a short article on this subject extracted from the French journal, La Phrenologie, in a subsequent part of this Periscope.

If these instances will not satisfy the sceptic, we should then advise him to study his own character, and compare it with the characters of his friends and fellows. Does he not perchance feel, although he may be very unwilling to make the admission to another, that certain feelings, and propensities are by nature stronger and more impelling, while certain others are feeble and less active, in himself than in them? True; education, and self-control, and reflection may have taught him the necessity of encouraging the growth of one set, and of restraining the growth of another set of these powers. The very aim and object of every rational person is to do this. But still, in spite of all his efforts, has he not often occasion to regret the insufficiency of all his best endeavours either to stimulate the higher powers and sentiments of his nature, or to keep in check the lower? Does he not perhaps feel that, however much he may toil, and however ardently he may wish to equal some friend in the play of fancy, the eloquence of language, the perspicuity of thought, the beauty of benevolence, or the general evenness and equanimity of disposition, all his exertions are at best only partially successful? Yes; study and zeal will do a great deal: they may direct and strengthen, but they will never overpower or master Nature. Study will never make a mighty poet, or painter, or musician. Such men as Homer and Shakespeare, as Michael Angelo and Raphael, as Handel and Mozart, were *born*, not *made*, the true sons of genius.

It is quite uneccessary to say more on this subject—it does not, it seems to us, admit of dispute. Our opponents, however, may now ask, if we have any reason to suppose that the cerebral development of these men was more favourably organized than that of their fellow-mortals. We will not answer for more than one, as we do not remember having seen accurate busts of the others; but that one will suffice It is that of our own immortal countryman. Who that has ever looked on that glorious expanse of brow in the head of Shakespeare, but has not felt that the portrait *must* be true of him, who stands so proudly eminent above all other minds? It is not possible to imagine this first and foremost intellect with a low, contracted, and shabby forehead; as well might you picture to yourself a Hercules with limbs of straw, or a Jove with a feather for a thunderbolt.

Equally true to this standard of form is the cerebral development of other great authors. View the head of Sir Walter Scott—what an astonishing, nay almost a disfiguring, altitude of the fore and middle parts. It almost seems as if the creative energy of his boundless fancy had been struggling for room, and the tenement had been too tiny for the inmate. Look too at the heads of Goethe, Cuvier, Byron, and Wordsworth—they are all prodigiously large and full over the anterior lobes of the brain; and why? because the intellects of these "giants of mind" are preeminently great and expanded.

But we have neither time nor scope to enlarge upon this subject. Some will perhaps be inclined to say that our remarks are vague and unsatisfactory; but by the candid mind they may, we think, be received with more favour, intended, as they are, merely as prefatory to the following illustrations, which we now proceed to submit to the reader's attention.

A work entitled "Caracteres Phrenologiques," published by M. Bailliere last year at Paris, was recently put into our hands. Although full rather of light gossip than of every instructive reading, we were tempted to make a few extracts from it, considering that they might be aptly enough introduced before the reports of some of the papers, which we had copied from the late numbers of "La Phrenologie," a new French journal, which is now incorporated in the Encyclographie des Sciences Medicales.

Our chief motive for introducing this journal to the notice of the English reader, on the present occasion, is rather to convey some idea of what is going on among our professional brethren on the Continent, than to express our approbation of its contents. We rather fear that they are not well calculated to reflect much credit on French phrenology, and its professors.

To return however to the "Caracteres Phrenologiques" of M. Theodore Poupin, we may briefly state that he has attempted to illustrate the phrenological powers or faculties of the mind, by selecting an example of each from among the distinguished men of the present century, whose lives are on the whole well known, and which may therefore, he supposes, be fairly adduced in confirmation of his ideas.

He probably had in view the admirable, but unfinished, work of Dr. Spurzheim on "Phrenology in Connexion with Physiognomy." Would that M. Poupin's was worthy to be deemed a continuation of it!

But such as it is, we shall now give a brief analysis of its contents. The author commences with the lower or merely animal feelings.

Amativeness.—The reader is somewhat surprised to find that the example, which M. Poupin has selected of this propensity, is taken from Gall himself "notre maitre."

We are not acquainted with the private life of the worthy Doctor; but M. Poupin assures us that he was a most devoted admirer of the "beau sexe." In describing however Gall's physiognomical and phrenological development he does not say one word on the subject of his *amativité*, unless we are to interpret the expression, "on trouve autour de la bouche une expression indefinissable d'amour," to this effect!

Philoprogenitiveness.—The illustrations of this amiable feeling are preceded by some rather apt allusions to the more beautiful examples of paternal and filial affection, celebrated by the Greek and Roman poets.

M. Poupin thus regards the attachment of a child to its parent as springing from the same source with parental fondness; "for in general," says he, "that man is a good father, who has all his life been a virtuous son."

He then adduces those beautiful lines of Virgil, where Æneas addresses his aged father.

Ergo age, care pater, cervici imponere nostrae,
Ipse subibo humeris, nec me labor ipse gravabit;
Quo res cunque cadent, unum et commune periclum,
Una salus ambobus erit.

The example, which M. Poupin has selected of *philogeniture*, is that of M. Casimir Perier, the late prime minister of France. "What harmony, what unity, what justness of proportion in his portrait! We cannot say all that we think; but what energy in the expression of the nose alone."

The character of M. Perier was certainly distinguished by great firmness and intrepidity of resolution; but these high attributes were associated, we are told, with the most devoted love of his children.

Inhabitiveness.—There are some men, says our author, who regard *habitivite* as a mere fanaticism; who will ridicule your attachment to the spot where you were born, to the play-ground where you romped, to the clock of your village church, to the stream that murmurs past it. But these must be cold and passionless beings, in whom self is all-predominant.

He then descants in exstatic language upon the love which all Frenchmen have for their native country. "When they shall cease to love France, there shall be no Frenchmen in France; there shall be no longer a France. La patrie ! la patrie !—these shall be the last French words that we shall speak, when the world crumbles to pieces ! !"

The extract, which is given from M. Saint-Pierre's affecting description of his reaching the shores of France after a long residence abroad, is very beautiful; but we cannot find space for it at present. It will remind the English reader of the charming introductory chapter of Washington Irving's Sketch Book.

Even the native of a large town retains a peculiar attachment to it, from its being the place of his birth and all his early recollections. Montaigne, speaking of Paris, says: "The more I have seen of other fine cities, the more does the beauty of this gain upon my affection; I love it tenderly, even to its very blemishes." All English readers must know that glorious description of Edinburgh in Marmion, so beautifully closed by these simple words,

"Mine own romantic town."

The feeling of attachment to the place of nativity is however always strongest in those parts of a country most remote from its great towns, and especially when the scenery of the country is bold, rugged and mountainous. Hence its force and power among the Bretons, Vendeans, the Swiss, the Irish, and the Scotch.

M. Poupin gives a very affecting narrative of four Peruvians, who died at Paris three years ago, and in whom the recollection of their native mountains and forests seemed to have brought on a fatal melancholy. But the type "par excellence" of inhabitiveness is, in our author's opinion, Sir Walter Scott. He gives the reader a long extract from Washington Irving's recent work on Newstead Abbey and Abbotsford, in which the mighty minstrel is introduced as himself describing his love for the "grey bleak hills" of his native country.

M. Poupin seems to be well acquainted with English literature; for he goes on to speak of the characters in Lady Morgan's novels, O'Donnel, and Florence Macarthy.

The physiognomical expression of Sir W. Scott's face is quite indicative, we are told, of his character as an author of the most wonderful creative genius, and as a man of the purest and most benevolent affections.

Attachment.—The organ of this feeling, which is certainly much akin to the two last-mentioned, is situated rather higher up on the occiput, and somewhat more outwardly than inhabitiveness, and philoprogenitiveness. It is the fountain-spring of friendship, the prompting impulse of all the social affections. It has therefore a much wider range of action than either the mere attachment to place, or that to offspring.

M. Poupin seems to believe that "affectionivité" is very rare in the world. "When," says he, "it succeeds to love, it may be sincere, but its origin is not pure. Between women it is a phenomenon; between men it is not less rare. The great are too much occupied with their titles and their wealth to think much of friendship; the men of the world are too frivolous, and the men of wit are too vain to think about it." He then quotes the following lines from Fontaine:—

"Chacun se dit ami, mais fou qui s'y repose,
Rien n'est plus commun que le nom,
Rien n'est plus rare que la chose."

He is willing however to admit that there are some who are born for friendship.

Of all men in the present day, he thinks M. Lafitte most worthy of the distinction. His character is described as being full of all the kindly benevolent features of our nature, of strong attachments, of the noblest self-devotion, and of the most elevated sentiments.

Combativeness is the feeling which is next described, and which is illustrated in the character and by the phrenological development of the late General Lamarque.

Our author passes a very high eulogium on his memory. It closes in these remarkable words: "he died with the word 'Waterloo' engraved upon his heart. It was he who said, 'Let war come, and I shall measure myself with

Wellington! I have studied his tactics, I shall beat him!! Such was the fixed idea of this great general.

(Our readers will no doubt be pleased to learn what were the *intentions* of General Lamarque.)—*Rev.*

The remarks of M. Poupin on the organ of *destructiveness* are, it is to be hoped, not quite orthodox; as they bear rather hard upon us, knights of the lancet. For example, he adduces the late celebrated surgeon, Baron Dupuytren, as the illustrative example of this very unamiable feeling, and with great coolness observes that many medical men, like he, have selected their profession from the strong impulse of destructiveness! He then alludes to the horrid fondness, which some persons have to witness public executions; to the love of the English for cock and for prize-fights, of the Spaniards for their bull-fights, and of his own countrymen for the more ignoble, but not less disgraceful, combats of dogs and cattle, at the barriers, Villette and Chopinette, where not only the dregs of the lower orders, but sometimes also "d'elegantes et nobles dames" attend.

However humiliating therefore, says M. Poupin, the reflection may be, that there is in our nature an innate propensity to kill and destroy, the truth is forced upon us in spite of all our reluctance; and in no distinguished character can we find a more illustrative example of its existence—directed, we allow, to objects of usefulness and science—than in the late Baron Dupuytren, always excepting "le celebre docteur Roux!" In both, the organ of destructiveness is, we are told, very fully developed. If education and the higher feelings and faculties had not directed them to the cultivation of a pursuit like surgery, these two eminent men might have proved dangerous members of society!

[The reasoning of our author on the character of Dupuytren is very faulty. He, for one, may have had the organ of destructiveness large; but surely such an organization is not necessary to become an eminent surgeon.]

Secretiveness.—Old Tallyrand is selected as the representative of this very useful, but often very inconvenient (to others), feeling. It is the nursing mother of cunning, love of stratagem, hypocrisy, and lies, when uncontrolled and undirected by the higher sentiments and faculties of the mind. Under proper regulation, it is an admirable tactician; never disclosing our plans and wishes until the well-judged moment.

No one can go well through life, without the exercise of a certain degree of dissimulation. It is quite necessary to the *manege* of civilized life, to the courtesies and even to many of the suavities of modern society. Since the days of Machiavel every one has been accustomed to identify it with the very existence of those mighty gentlemen, the diplomatists. Hence it is we suppose, that Prince Tallyrand de Perigord, the high-priest of so many governments, is adduced as the representative of *secretivite.* The Italians have been long noted for the exercise of this quality. Whether however the phrenological organ is more prominent in them than in other nations, our author does not inform us. He does not even pretend to say that it is at all largely developed in the head of Tallyrand himself. He describes him, indeed, as a consummate master of political dexterity, and of all that train of courtier intrigue which has formed too great a part of modern European diplomacy. Every one has heard of the statue-like imperturbability of his features. One of his countrymen has wittily remarked; "jamais un visage ne fut moins barometré."

Acquisitiveness.—This is a strong feeling in most men—the love of acquiring. It is the prompter to active exertion, in the merchant, the banker, the lawyer, and often too in the statesman. If inordinate and irregular, it encourages a spirit of avarice; if deficient, there is generally a prodigal and extravagant disposition. Paganini, the famous fiddler, is selected by M. Poupin as an example of the former vice; and as a type of a base *acquisite.* He abuses him as "le seul artiste avare de notre temps." From all that we have heard the Signor amply deserves this castigation. Our author tells us that he has so offended his countrymen by his abominable greediness, that he is for ever *chassé* from Paris.

We have nothing to say of the last of the propensities, *constructiveness*, and shall therefore pass on to the consideration of some of the higher feelings or sentiments.

It may be proper however to allude to the other two, more doubtful, propensities, *love of life*, and *alimentiveness*. In 1832 Dr. Spurzheim proposed to the Anthropological Society of Paris the recognition of a new phrenological organ, the seat of that instinctive attachment to life, which exists in all animals. This organ has been adopted by Professor Dumoutier. It is supposed to be situated at the base of the brain immediately above the cerebellum, and corresponds externally with the mastoid process of the temporal bone.

Our author has very strangely selected as the "tableau vivant of this propensity, the late Leopold Robert, a young Parisian painter of great promise, who put an end to his existence from mere ennui!!

The other propensity, *alimentiveness*, the organ of which is said to be situated immediately in front of the ear, is exemplified by the portrait of a venerable most judge-like person, M. Henrion de Pensey, who, we are told, is justly celebrated in the records of gastronomy, and who told Laplace one day that he regarded the invention of a new dish as more interesting than the discovery of a new star!

We should suppose that M. Poupin himself is quite a connoisseur. "Gourmandise," says he, "paid the enormous burden imposed by the enemy in France in 1815. Barbarous as they were, they could not withstand the attractions of our restaurans. Paris became one vast *salon a diner*, where these bearded savages gorged themselves upon the fine meats, fish, pastry, and wines of our metropolis. The money thus spent was enormous. These were the days when Very, Achard, Beauvilliers, Sullot, &c. made immense fortunes."

Self-Esteem.—Our author descants eloquently upon the excellence of this feeling, when under proper control. Broussais, "le plus grand novateur et le premier medecin de notre siecle," is a pattern of it to perfection. His portrait therefore is selected to adorn the commencement of the chapter. He is said to be very like Gall; and M. Poupin describes in glowing terms his many excellencies. Not one word, however, is said either of his cerebral development, or whether the organ of self-esteem is large on his cranium, or not. It appears to be taken for granted.

Love of Approbation is large, we are told, in the character of M. Scribe, the prolific author of vaudevilles, and light dramatic sketches; and *Caution* in that of M. Dupin, the able advocate, and the accomplished statesman. Some of the remarks of M. Poupin on the working of this feeling are apt and good. "When it is inordinately developed, it engenders irresolution, melancholy, and hypochondriasis; if combativeness be at the same time small, the character is pusilanimous and even cowardly. The irresolute man—he without character, without energy, without a will—goes on usually from one fault to another, from regret to regret, a victum of complaisance, the dupe of good-heartedness, the sport of his associates, who does not get much credit for his virtuous actions, and to whom all the evil, that he can do, is charitably imputed." His description of the character of M. Dupin, the elder, is in the following words:—"Look at this forehead, full of grand and solid ideas, the eye which pierces the surface of objects, the expression of taste and elegance which reigns around the mouth, and especially the *ensemble* of that face where Nature has written, in physiognomical characters, *Caution* and *Dexterity*. Observe at the same time the horizontal position of the eyes, indicative of calm confidence, and it is impossible not to recognise the features of M. Dupin."

[This is all very flimsy and moreover far from being applicable to the portrait in question. There is a sad incongruity between the eloge of the author and the drawing of the artist.]

Benevolence is exemplified by the head of M. Beranger, so much admired for his beautiful odes and chansons, and whom our author panegyrises as one of the most noble, and the most pure creatures which has ever existed. After passing a high encomium on him as a man, and as a writer, he rather prettily adds, "Beranger est le type de la vraie sagesse. Chez lui c'est bien plus le cœur qui pense que la tete." No one, who is in the habit of attending in the most superficial manner to character, can for a moment hesitate to admit that there is a striking difference as to the benevolent attribute of different persons. M. Poupin has repeated the oft-told anecdote of the famous Turenne. The great general was leaning over the balcony of his window, dressed in a loose vest, and with a plain cotton cap on his head. His valet, mistaking him for one of his fellow servants, gave him a hearty slap on the back. Turenne turned round, rather surprised at this familiarity: the valet, confounded, fell at his feet and beseeched forgiveness for his error: "And if it had been Jacques the cook," said his master coolly, "there was surely no occasion to have struck him so hard."

A more exalted instance of benevolent feeling is that told of the virtuous Fenelon, who inculcated the doctrine of toleration on his pupil the Duke of Burgundy, in these memorable words, "Suffer all forms of religion, since God himself suffers them."

The next phrenological sentiment to be noticed is *Veneration*. M. Lamartine, the distinguished traveller, is adduced as an instance of the large developement of this organ. It is very full also in the heads of M. M Chateaubriand and Beranger. This is the feeling that leads the mind to adore and venerate not only the invisible Supreme Being, but all who are exalted above us either by station and talents, or by the claims of affection and love.

M. Poupin quotes the following passage from M. Lamartine's Voyage en Orient, as beautifully illustrative of his character.

"To explain to myself how, at the close of my youth, at that epoch of life when man withdraws himself from the ideal world to enter upon the world of materials interests, I have left my lovely and peaceful life at Saint-Point, and all the innocent delights of a domestic fireside which is blessed by a wife, embellished by an only child, I say to myself —*this pilgrimage*, if not of a Christian, at least of a man and of a poet, *would have so pleased my mother*. This voyage of a son, whom she so tenderly loved, must please her even in the celestial abodes where I now see her; she will watch over us, she will place herself, like a second Providence, between us and all the storms of life, between me and the simoon, between me and the wild Arabs of the Desert! She will protect from every danger a son, an adopted daughter, and a little grandchild, the visible angel of our destiny; and; if there be imprudence in this my enterprize, she will obtain pardon for me above, in virtue of the motives which urge me—love, poesy, and religion."

The sentiments of *firmness*, *conscientiousness*, and *hope*, are illustrated by the portraits of, and by remarks on, the characters of Boissy d'Anglas, Chateaubriand, and Silvio Pellico.

Marvellousness is exemplified in the German poet, Hoffmann—a writer or great genius, but one, whose love of the supernatural was apt to lead him into extravagant excess. He was constantly haunted with the dread of some undefined danger, and his nights were continually disturbed by spectres and horrible phantoms, the creations of his own wild fancy.

He was small of stature, of a highly nervous temperament; his look was wild and almost savage; his hair was black. His cat Murr, of diabolic memory, was always at his side, and he was almost continually smoking. All these minutiæ are admirably represented in his portrait, which seems to have been hit off at a moment when he was writing these words—"Why do my thoughts, whether I am awake or asleep, always tend, in spite of all my efforts, to the gloomy subjects of insanity? It seems to me as if I felt my disordered ideas escaping from my mind like hot blood from a wounded vein."

Hoffmann was an example of marvellousness abnormally developed, and morbidly excited at the same time.

Ideality is portrayed in the head of Victor Hugo, one of the leading novelists of the modern French school. Some of the remarks of our author on the attributes of this sentiment are very good. For example: "Ideality is the noble spring of all genuine enthusiasm and of all exalted feelings; it is, so to speak, genius materialised; it enlarges and dignifies the soul, and widens the boundaries of the *possible.* It is this secret, profound, and irresistible impulse that spurs on the soul to all its loftiest and purest efforts; that fires the poet and the patriot, that exalts the conceptions of the painter and sculptor, that, breathes the 'witchery of sweet sound' over the soul of the musician, and that even animates and sustains the virtuous mind to many of its best deeds, and many of its holiest purposes."

Gaiety or *mirthfulness* is strongly developed in the head of that brilliant wit of Paris, M. Jules Janin. He therefore is adduced as the type of this faculty. His character is summed up in these words; "il est jovial, vif, animé, bon garcon, abandonné, sans facon, gai, joyeux, heureux." He is happy at nothing, but often as unhappy, he knows not why; passionate and enthusiastic about trifles, cold and disdainful in the midst of most important events; surrounded with enemies and rivals, yet quarrelling with or disliking none; apparently quite unconcerned about the annoyance or mischief he may cause to others, and as indifferent to what they may do to him; self-indulgent, *facile a vivre*, and often having nothing which he can quite call his own; a man of luxury, and who is yet satisfied with the most humble conveniences; in short an excellent good person at heart—such is M. Janin.* He has been a most prolific writer for the daily journals, and his pen has been engaged in most of the literary enterprises of the age. He is the author of several novels and tales. In fine, the character of this strange creature is an "improvisation every hour; it is the journal of each day. He represents journalism as M. Lamertine represents the Ode, and Victor Hugo does the drama of the present day."

We come now to allude briefly to the Intellectual faculties, and of these, the Perceptive are very properly treated of first.

Individuality.—This organ is largely developed in the head of M. Orfila, whose portrait therefore heads the chapter. This distinguished chemist and physician is well known to our profession, as he that has contributed most to the advancement of medical jurisprudence. His unwearied researches on this interesting department of science prove, most indisputably, how acute and vigorous his mind is in the observation of phenomena; and this character is strikingly in accordance with his phrenological organization.

Form, is exemplified in the portrait of Baron Gros, the celebrated painter of the battle of Arcola, Jaffa, Eylau, &c. and of the dome of the church of St. Genevieve; *size*, in that of M. Arago; *weight* or *resistance* in that of Baron Dupin; *colour* in that of Delaroche, the painter; *locality* in that of Jacquemont, the author of Travels in the East; *number* in that of M. Ampere; *order* in that of the immortal Cuvier; *eventuality* in that of Andrieux, a celebrated professor of French literature; *time* in that of Lablache, the Coryphæus of singers, *il premier cantatore du monde, la heros du chant; melody* in that of Rossini; and *language* in that of the famous oriental scholar Baron de Lacy.

Our limits prevent us from entering into more minute details of the different faculties now enumerated, or of the characters which are adduced to illustrate them.

The only remaining faculties, which remain to be mentioned, are those which have been denominated the reflective; viz. *comparison*, and *causality*. The former is said to be very largely developed in the head of M. de la Mennais, author of the Essay on Indifference in Matters of Religion; and the latter, in M. Geoffroy Saint Hilaire, the celebrated anatomist and philosopher.

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* "What is remarkable at Paris? enquired the young and lovely Henrietta S—— of Lord P——. Four things, answered he: the poetic eye of Victor Hugo, the good heart of Jules Janin, the silence of Beranger, and lastly M. Balzac's walking-stick."

We must now take leave of M. Theodore Poupin and his "Caractères Phrenologiques." He has afforded us some amusement, if not a great deal of instruction. There is a light-hearted vivacity about his work, and withal a tone of gentlemanly feeling and literary taste which may go far to recommend it to his countrymen, and encourage them, for the mere nonce, to attend to the curious subject of which it treats. Even the English phrenological reader may be pleased with its perusal—there are passages here and there which will well repay the trouble. Before, however, quitting the subject of physiognonomical phrenology, we cannot deny ourselves the pleasure of alluding to a masterly work on this curious enquiry by the late Dr. Spurzheim himself, and which, we are surprised to find, is not much known in this country—at least far less known than it deserves to be. It is certainly the most attractive and popular of all his writings, and withal as thoroughly imbued with his philosophic cast of thought as the most profound of them—we allude to his "Phrenology in connexion with the Study of Physiognomy," illustrated with admirable drawings of thirty-four portraits of distinguished individuals.

After some prefatory remarks, very sketchy and full of apposite quotations, on the interest which all people must feel in studying physiognomy, and on the proper method to be followed in doing this, he gives a most scientific description of the physiognomical signs, first of the body, then of the face or features, and lastly of the entire head.

In the first chapter, on those of the body, there are some excellent remarks on the difference of temperament in different individuals, as influencing their physical as well as their mental attributes.

He adheres to the old quaternary division into the phlegmatic, the sanguine, the bilious, and the nervous temperaments, each being illustrated by a very graphic delineation—but very justly remarks that it is rare to find any one of them pure and unmixed. "They are mostly found conjoined," says our author, "and occur as lymphatic-sanguine, lymphatic-bilious, sanguine-lymphatic, sanguine-bilious, sanguine-nervous, and so forth. The individual temperaments, which predominate, may be determined, but it is difficult to point out every modification."

The influence, which the temperament exercises on the character of the individual, is thus very faithfully pointed out: "It is important, in a physiological point of view, to take into account the peculiar constitution or temperament of individuals, not as the cause of determinate faculties, but as influencing the energy with which the special functions of the several organs are manifested.

Their activity, generally, is diminished by disorder in the functions of vegetative life, and it is favoured by the sanguine, and still more by the nervous temperament."

In the chapter on physiognomical signs of the face, Dr. Spurzheim, while he shews the fallacy of trusting alone to these in the detection of character, (as Lavater and his disciples have done,) shews with great truth that "certain forms of face, and certain expressions of features agree better than others with certain characters." "Nevertheless," adds he, "it remains certain that the same character is to be observed in conjunction with very dissimilar faces, and that the character by no means depends on the configuration of the face, although the face and character harmonize, just as do all the parts of a good picture."

On the national peculiarities of face, the following memoranda will be read with interest.

"The Jews, though they have been dispersed over all the countries, and have lived in all the climates of the globe for many centuries, still preserve a particular and distinguishing physiognomy. Peculiarities even mark the two tribes of Judah and Benjamin; in that of Judah, for example, the face is round and the cheeks are prominent; while in the tribe of Benjamin the face is lengthened, the cheeks are but slightly prominent, the nose is acquiline, and the eyes are lively."

Treating of our own country-people, Dr. Spurzheim says:

"England and Scotland having been occupied by various tribes, particular districts of each have a population originally different. In the County of Norfolk the same round and well-fed figures are seen, which Rubens has transferred to his canvas from the natives of Holland. On the borders between Scotland and England, the Roman form, of face is still found. In the South again, the Saxon face is most common."

It is however chiefly in the third chapter, that which illustrates the physiognomical signs of the entire head, that the reader will be most pleased with the remarks of our author—they are so apt, so original, and ingenious, and *apparently* so very just and confirmatory of the general principles of phrenological science. We have no intention to enter upon particulars at present; neither our limits nor our time will permit this. But we may briefly observe that the precepts, which Dr. S. has so perspicuously laid down and illustrated in this section of his work, will deserve the careful attention not only of the enlightened traveller and of him that is curious in matters of natural history, as well as the painter and sculptor, but also of the philosophic physician and of the man of general science, who feels a pleasure in studying Nature's operations, in the noblest department of her works, the development and exercise of the human mind.

The mutual influences of the propensities or animal feelings, the sentiments or more exalted feelings, and the intellectual faculties,—these sometimes antagonizing, at other times beautifully according with, each other—are illustrated with great perspicuity and force.

This is the strictly metaphysical part of the disquisition, and it is altogether excellent. Whether our author is equally successful in shewing that the strength of these various powers of the mind is, in all cases or even generally, proportionate to the size and development of certain parts of the cerebral mass, and whether they may be measured by an inspection of the cranium outwardly, we are not prepared to say. This, in short, is the sum and substance of phrenology; and we have already said that we have not attended to the subject sufficiently to warrant us in giving an opinion of our own.

This only we shall say, that if any one wishes to acquire a fair and luminous view of the general principles of phrenology, he will do well to peruse this work of Dr. Spurzheim, before entangling himself in the more minute and elaborate details of any regular treatise. It is certainly the book which the true friend of the science will put first into the hands of a disciple.

The historical sketches of the different characters—including Caracalla and Nero, Seneca and Zeno, Cicero and the Roman Gladiator, Popes Gregory VII., Martin V. and Pius VII., Richelieu and Walsingham, Henry IV. of France and Sully, Charles XII., and Catharine II. of Russia, Danton and Malasherbes, Drs. Priestly and Price, &c.—are, on the whole, executed with perfect impartiality and truth. To each memoir is prefixed a short statement of the phrenological development of the different characters, such as is observed in their respective portraits.

As a specimen of the general style of this part of the work, we select the description of the heads of Nero, and of Cardinal Richelieu.

"This figure (of Nero) is after an antique bust in the Royal Museum at Paris. The forehead is low, and the whole sincipital region small; the organs of veneration and benevolence are particularly defective, while those of firmness, self-esteem, and of all the animal propensities are very large. The basilar and occipital regions are greatly superior in size to the upper and fore parts of the head. In whatever situation such a cerebral organization is placed, the animal nature will be apt to overpower the peculiarly human sentiments." It is unnecessary to allude to the actual life of this monster of iniquity.

And now with respect to Richelieu, the all-powerful minister of the French Court, Dr. Spurzheim remarks:

"The forehead of this portrait, particularly in the region of the perceptive faculties, is large, and the width of the head generally is greater than its elevation. The organs of acquisitiveness, secretiveness, destructiveness, firmness, self-esteem and love of approbation are strongly marked; while those of benevolence, veneration, and consciensiousness are small. Such a man will be talented, but artful; he will be guided by selfish motives rather than by love of truth; religion in his hands will be but a means of gaining his immediate ends, and by gratifying his worldly intentions. He will sacrifice his enemies without pity or remorse; and in every situation, as father or as husband, as head of the church or of the civil government, he will insits upon being obeyed."

As a *set-off* to these two unamiable portraits, let us hear Dr. Spurzheim's delineation of an elevated character.

There is none better suited for our purpose than that of Melancthon, who is universally represented, by Catholics as well as by Protestants, as one of the highest ornaments of the Christian Church.

"The organization of this head differs widely from that of Luther. It is very narrow above and behind the ears, and the whole basilar region is very small; almost the whole of the brain indeed lies in the frontal and sincipital regions, both of which are exceedingly large. It is the brain of an extraordinary man. The organs of the moral and religious feelings predominate greatly, and will disapprove of all violence, irreverence, and injustice. The forehead betokens a vast and comprehensive understanding: the *ensemble* a mind the noblest, the most amiable, and the most intellectual that can be conceived. If there be any thing to regret, it is that the organs of the animal powers should have been so small in comparison with those proper to man."

In closing our notice of Dr. Spurzheim's work on "Phrenology in connexion with Physiognomy," we cannot refrain from once more very earnestly recommending this most ingenious and instructive work to the notice of our readers.

CHARACTER OF CUVIER.

"In amost all the portraits of Cuvier, large or small, that forehead, which has given birth to one of the sublimest theories in science since the days of Newton, is observed to be not so much developed as might have been expected; and yet, notwithstanding this physiognomical defect, how wonderfully expressive it appears!

From the summit of the head to the neck, from the arch of the forehead to the chin—setting aside every other mark—what may we not anticipate from such an organization? Yes; it is thus that the Almighty wills to form the mighty sons of genius*—of such a genius as that which, by the sole aid of

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* The following extract from the amusing work Peter's Letters to his Kinsfolk, although not strictly applicable, will be read with interest.

"In the general form of Sir Walter Scott's head, so very high and conical, and, above all, in the manner in which the forehead goes into the top of the head, there is something which at once tells you that there is lofty enthusiasm and passionate veneration for greatness, which must enter into the composition of every illustrious poet. In these respects Scott bears some resemblance to the busts of Shakespeare, but a much closer resemblance to those of Corneille; and surely Corneille was one of the most favoured of all poets, in regard to all that constitutes true poetic soarings of conception.

No minor poet ever approaches to this conformation; it is reserved for 'earth's giant sons' alone. * * * I do not think that the head is so long from stem to stern as Lord Byron's, some fragments dug out of the bowels of the earth, recomposed, as it were creatures which had fallen into nothingness, and which constructed anew from a few broken pieces an enormous edifice, to shew to us poor beings what the earth once was, what it is now, and what it probably will become at a future period.

We say nothing of the eyebrow, of the expression and form of the eyeball, and of the contour of the nose; although these signs, according to Lavater, are indications of a profound and exquisite judgment, of an invincible industry, of a singular aptitude for inquiry and observation, a most scrupulous regard for order and arrangement, and, in fine, an immovable mind, gifted rather with solidity of thought than brilliancy of fancy, rather with depth and firmness than a delicate sensibility of feeling.

The numerous works of the great naturalist bear witness to the mighty powers of his mind.

Where shall we find a name worthy of higher admiration than that of the immortal Cuvier? and what biography can ever tell the extent of his indefatigable researches, and the number of his bright discoveries? Every thing bears the stamp of magnitude and greatness in his works.

Born at Montbeliard, on the 23rd of August, 1769, George Cuvier exhibited from his early years an extraordinary facility of conception, an aptitude for instruction. The most tender of mothers would often express her alarm for his health; for his complexion at this time indicated a delicacy of constitution, which premature study might probably enfeeble. She would rather have seen him fonder of his play than of his books: 'Le cœur d'un mere est le chef-d'œuvre de la nature.'

At four years of age he could read accurately; at fourteen he had finished his classical studies. But he was not satisfied merely with a knowledge of Greek and Latin; he paid much attention to history, geography, arithmetic, geometry, and drawing. Before he was fifteen years of age he had read Buffon through, commenting upon it as he went along, and copying the engravings of the different animals. By the patronage of Duke Charles of Wurtemburg, he was sent to prosecute his studies at Stutgard.* Some time afterwards he entered the establishment of the Count d'Hericy as tutor of his children. His cheateau of Pinquinville is situated not far from the sea-coast in Lower Normandy. Having a good deal of leisure time to himself, Cuvier devoted his mind to the pursuit of his favourite study, natural history. His fine talent for drawing enabled him to collect a large catalogue of the figures of all sorts of animals.

Appointed Professor of Natural History to the Central School, he obtained soon afterwards, through the influence of M. Geoffroy St. Hilaire, the chair of Comparative Anatomy at the Jardin des Plantes in Paris.† While not more than 26 years of age, he was associated in the first organization of the Institute as a member of the physical and mathematical class.

During 32 years, Cuvier filled the place of perpetual secretary to the Academy of Sciences, with, we need

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which probably indicates some inferiority in point of profound feeling. * * * Lord Byron's head is, I think, still more complete all throughout than that of Mr. Scott. The forehead is defective in much that Scott's possesses; but it is very fine upwards, and the top of the head is wonderfully capacious. Altogether, it is the finest in our time. I think it is better, on the whole, than either Napoleon's, or Goethe's, or Canova's, or Wordsworth's."

* His Diarium Zoologicum Primum bears the date of Stutgard.

† How long the French have been in advance of us in the noble study of comparative anatomy, appears from the circumstance of its having been recognized, as one of the departments of instruction, for at least 30 years before it was taught in this country. Fortunately, we have one mighty name to oppose to their phalanx of strength. Need we say that it is that of John Hunter?

scarcely say, the highest honour to himself and to his nation.

The duties of these numerous avocations would have been more than enough for most men—to him they were but as mere relaxation. Cuvier, whose name is worthy to be associated with that of Napoleon, and is one of the brightest ornaments of this or any other age, was not less distinguished in his administrative than in his scientific career. Every moment of his life was profitably employed: he was never idle. Even while sitting in his carriage, he was either reading or writing, or arranging some materials of thought. No author has written so many original works, with so little time devoted to them. Whenever he had a spare quarter of an hour, whether before dinner, or when attending a council of state or a sitting of the Institute, his mind was sure to be engaged in resuming some inquiry, which had been interrupted on the preceding day.

In the course of 1832, he experienced a degree of numbness in his right arm. This alarming symptom did not at all abate the energy of his mind. It was, alas! however, the precursor of a more complete paralytic attack, which proved fatal on the 13th of May.* He died with all that calm and dignified resignation which religion alone can bestow.

Our readers will probably recollect that, on dissection, the weight of Cuvier's brain was three pounds ten ounces and four drachms and a half—one-third heavier than an adult brain of ordinary dimensions."—*Car. Phren.*

[*Remark.*—Much of the preceding eloge is very vague and inflated. We have, however, preferred to give it entire from the original, as a sample, among others, of the style of thought as well as of language, which French writers are so apt to indulge in.—*Rev.*]

NOTICE OF THE NEW FRENCH PHRENOLOGICAL JOURNAL. M. BROUSSAIN ON EDUCATION, &c.

Within the last twelve months, a new journal, devoted to the investigation of phrenology, has been started in Paris. The name which has been given to it is 'La Phrenologie.' It is edited by two doctors, MM. Place and Berigny, and by an advocate of the Supreme Court, M. Florens. They have obtained the co-operation of all the leading phrenologists in the metropolis; as for example, M. Broussais, a member of the Institute, and president of the Phrenological Society of Paris; M. Bouillaud, a vice-president of this society, and well known as an indefatigable physician of La Charité Hospital; and M. C. Broussais, also a vice-president, and one of the professors to the Faculty of Medicine, and of the medical school at the Val-de-Grace. Among the others, we observe the names of Dr. Fossati, Dr. Leroi of Versailles. Professor Dumoutier, and M. Lanerin, a barrister.

We propose to give an abstract of some of the most valuable papers in the numbers of this Journal, from its commencement last Spring.

M. Broussais, the elder, has contributed a series of papers on the *Application of Phrenology to the Education of Man.* These, however, are by no means very interesting, being far too much occupied with vague generalities, and sadly deficient in perspicuity and precision. We shall, however, extract a few of the better passages.

The writer commences his disquisition by pointing out the great divisions of the mental powers or endowments into instincts, sentiments, and intellectual faculties. The first division, that of instincts, is common to man with the lower animals; and their organs are first developed in the order of physical evolution. The second division, that of sentiments, comprehends the loftier moral attributes of man which belong to him as a social and moral being, such as conscientiousness, hope, veneration, &c.; and, in the third division, are arranged all the powers or faculties of the intellect, by which men become acquainted with the events and phenomena of nature, through the medium either of perception or of reasoning.

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* It is a singular coincidence that Napoleon, Sir Walter Scott, Canning, Wellington, Sir James Macintosh, and Chateaubriand were all born in the same year as Cuvier; and that Sir Walter Scott and Goëthe died during the same year as he did.

These three great divisions or classes of the mental powers are, according to the doctrine of phrenology, correlative to, or correspondent with, the three lobes of each cerebral hemisphere, the posterior, the middle, and the anterior. The instinct of amativeness is referred to the cerebellum; and perhaps therefore we may find the true cause of the tardy development of this feeling in the circumstance of its special localization, apart in some degree from the organs of the other faculties.

During the first period of life, the human being acts from mere instinct, without knowing what he does. Soon, however, some of the intellectual powers begin to manifest themselves; and, at the same time, some of the sentiments also are developed. These sentiments add their impulses to those of the instincts; and the intellect at this period of life has no other function than to shew to the one and to the other the external objects, which are to engage them. The intellect therefore in the young child is the handmaid, perhaps we should rather say the slave, of the instinctive and sentimental impulses. A change is soon to take place. The intellect, as it becomes more and more developed, acquires gradually an ascendancy over the other powers, instinctive as well as sentimental; and its various acts, or, more correctly speaking, the various phenomena of its action, become, as it were, so many "besoins." When this important change has taken place in the development of the mind, the person becomes a more reasoning, and therefore a more responsible, being. His actions are, or at least ought to be, no longer mere impulses of feelings; they should be the results of judgment and consideration. "Hence," says M. Broussais, "the whole problem of education resolves itself into merely hastening the time when the higher faculties will become, if possible, 'les besoins predominants, et les directeurs supremes' of the conduct of social man."

M. Broussais insists particularly on the qualifying expression "if possible," in this proposition; as it is quite necessary to ascertain, in the first case, if there is in the child a sufficient amount of intellectual faculties, to lead us to expect that the exercise of them may become "le besoin predominant."

To determine this point, we should examine carefully the actual and the relative size of the frontal region. If it is fairly developed, we have good reason to expect success in our educational efforts; but if it is much depressed, and decidedly defective, compared with the size of the middle and posterior portions of the head, the discipline of instruction may do a good deal to improve the intellect; but we should most assuredly never anticipate a full extent of its powers.

This, therefore, is the first step which we should take in determining the capabilities of a child—viz. to ascertain the actual and relative size of the anterior lobes of the cerebral hemispheres. The next step consists in ascertaining whether the inferior or supra-ciliary, or the superior or frontal portion of the anterior lobes is most developed; in other words, whether the perceptive or the reasoning faculties of the mind are naturally predominant.

Again, in some children, we find a remarkable quickness of apprehension on almost every subject; and others are distinguished by great natural acumen in one pursuit only, while they are dull and slow in all others. Thus one shews a remarkable talent for music; a second for drawing; a third for constructing figures; and so forth.

In some children, all the perceptive faculties are dull and inapt to apprehend, while the reflective and reasoning powers of the mind are vigorous and powerful. Now no education will ever force such children to be quick, smart, and brilliant in any pursuit. They may be compelled to study all the embellishing accomplishments of modern refined life; they may have masters and professors without end; see every thing;

hear every thing; and taste every thing;—but all this will never make the youth a Sir Philip Sidney, or a second Crichton. And yet perhaps this very youth, who may perhaps have disappointed the fond hopes of an inconsiderate parent, will turn out one of the most valuable members of society. Although not bright and brilliant in fancy, not voluble and eloquent in speech, not sparkling with wit, or quick at gay repartee, and although he may have none of the attractive elegancies of high-bred education, or the graces of a refined sensibility, he may nevertheless be the delight and the boast of all who know him. It is precisely in such a character that we generally meet with that evenness of character, that clear-sightedness of judgment, that discriminative and fair and just balancing of events, and that intrepidity of resolution, which fit their possessor to steer his course "calmly and proudly" among the shoals and quicksands of life, whether, in the sunny hour of prosperity, or in the dark tempest of misfortune.

But to return to our subject. We have already said that, whenever there is a decided deficiency of development of the anterior cerebral lobes, we should never expect any great improvement of the intellectual powers from education. If the forehead, therefore, is much depressed, if the supra-ciliary portion also is very low, and not at all prominent, and if the distance between the external ear and the convexity of the frontal bone be decidedly very small, "jamais vous ne pouvez reussir à faire que les phenomenes intellectuels devinssent les besoins predominants d'un pareil sujet."

Again, if the superior transverse half of the forehead be broad and full, while the inferior or supra-ciliary half is flat or depressed, the individual will be found to be thoughtful and reasoning, but deficient in acuteness of observation, and in the memory of objects in general.

He will be satisfied with a few facts to ground lengthened commentaries upon, and he will be apt to be misled in the mazes of his own device.

Extreme cases of this description are not very unfrequently met with among idiots. Their want of the knowledge of facts seems to permit their minds to be entangled among the meshes of a disdirected and extravagant fancy; and thus such persons will be found to be continually framing some wild and aimless project, or indulging in some dreamy improbabilities. It is obvious that all attempts to reason them out of their reveries must fail, in consequence of the perception and memory being in them void, and, as it were, sieve-like, incapable of holding the images presented to their notice.

This conformation of cerebrum, and this variety of idiotism, is of rare occurrence, it must be acknowledged. In by far the largest proportion of cases, the whole extent of the anterior lobes, the reflective as well as the perceptive regions, is simultaneously atrophied.

Whenever the development of the two frontal regions is within the normal limits—the conformation of the immense majority of mankind—the intellectual powers may be brought by education to acquire the predominance in the mind; but at the same time we must remember that this predominance will always be apt to be disputed by the instincts and sentiments. If, however, this education is neglected, and if the mere wishes and desires of a child are invariably and quickly gratified, the reasoning powers, however well developed and however much cultivated in after-life, will never acquire that controlling influence over the actions of life, which we wish to see in every well-regulated mind. It is, therefore, of infinite importance to appeal frequently to the judgment and to the higher moral sentiments of a child, and thus to strive to strengthen and improve them, before the mere instinctive feelings of our nature have acquired from unchecked indulgence an undue degree of power. Should this discipline be neglected, "l'intelligence sera toujours l'esclave des instincts et des sentiments."

PHRENOLOGY DOES NOT SANCTION A BELIEF IN FATALISM.

The author of this article is M. Florens, an advocate practising at the Palais de Justice. He proposes to give a series of papers, illustrative of the beneficial application of phrenological discoveries to the science of legislation and jurisprudence.

"Before," says he, "entering upon the examination of the numerous important questions which arise from the application of phrenology to legislation, to the penitentiary system, and to the different modes of education at present pursued; before attempting to shew how this science—which constitutes the true philosophy of man—founded, as it is, on his organization, and on a rigid examination of the phenomena which it produces, must assume a high place among the various branches of the social system; we deem it necessary to examine somewhat minutely an objection, which our opponents have fondly been in the habit of advancing, ever since Gall first propounded his discoveries. It has been said that phrenology leads directly by its doctrines to fatalism, and that, by sapping the foundations of the moral code, it pallitates iniquity and crime.

If phrenology, it has been argued, be true, teaching as it does that all the faculties of the mind, all the propensities of our nature have their seat in the brain, that the development of these faculties and propensities is the law of their nature, it must follow that man is irresistibly urged on to virtue or to vice, that he has no choice in his actions, and therefore that he cannot be deemed responsible for them. Again, as phrenology asserts that the development of an organ may be recognized by a protuberance on the outside of the cranium, our opponents have improved upon the assertion, and made us say, that "a man, in virtue of his organization, possessing the bump of theft, or that of murder, obeys the dictates of his nature when he steals or kills; he has no freedom of will: and consequently he cannot be properly accounted to be responsible for his actions."

It is truly astonishing what credence this most erroneous argument has obtained. From the gossip of the parlour it has reached the disquisitions of the lecture-room, and even the more solemn deliberations of our halls of justice.

"I have often," says M. Florens, "heard it said at the *Palais*, 'Phrenology is a dangerous science; it proclaims that there is in human nature a disposition to murder, to steal, &c.; that we are irresistibly, and, as it were fatally, urged on to the commission of vice. And, if such principles be just, how can any punishment be ever inflicted upon a criminal? With the system of the phrenologists, neither morality, religion, nor legislation can possibly exist.'"

If phrenology indeed taught such doctrines, well might our opponents call it a most dangerous science. They have conjured up phantoms of their own making, and most unjustly attribute them to us. All that phrenology has ever asserted in regard to the functions of the brain is, that there is a multiplicity of organs belonging to it, and that each organ has a distinct function. It has shewn us the admirable provision of Nature in always placing the antidote or counteracting agent at the side of the evil propensity, and it has proved to us, beyond all doubt, that a wonderful harmony exists between the machinery of the human mind and the plan of universal creation. In no department of physical nature do we perceive unmingled happiness, or the existence of any one good or any one enjoyment, without a corresponding evil and distress. The helpless inoffensiveness of the lamb does not save it from the gripe of the wolf or of the eagle; the timid mouse falls a prey to its cunning enemy; and how continually are the gay tenants of the wood sacrificed in wanton sport by man himself.

Every thing shews a checquered state of joy and misery, of happiness and pain, of good and of apparent evil; and if such be true of all the other works of creative power, why should we expect that the human mind should be excepted from the law?

The more we examine the physiology of the mind, the more completely shall we see the truth of those great principles which Gall and his disciples have so incontrovertibly established, that there is a multitude of innate propensities, feelings, and faculties, and that many of these, if unchecked and uncontrolled, lead on the individual to crime and to misery. If this proposition be true, and we most firmly believe that it cannot be gainsayed, then phrenology, instead of encouraging vice as palliating crime, must be regarded as by far the purest system of ethical instruction, inasmuch as it discloses to our notice all those wayward and misleading impulses of the mind, from which wickedness and its attendant suffering arise.

By pointing out the various faculties and endowments of each individual, phrenology affords him the means by which, under proper guidance, he may check some, encourage others, and regulate and direct them all.

But it may be said that phrenology asserts that, in certain persons, the evil propensities are so predominant, in consequence of their inordinate development, or of the imperfect growth of the higher sentiments and faculties, that we cannot fairly regard them as responsible for their actions.

This is an exaggerated view of what has been laid down in phrenological works. All that has been insisted upon is simply this—that there is a great difference in the criminality of different persons culpable of the same offence, and therefore that, as all are not equally responsible, all should not be punished alike. In those in whom the lower propensities are active and powerful, and in whom perhaps at the same time there is a deficiency of the higher sentiments and of the reasoning powers, the impulse must be, as a matter of course, much stronger than in those who are more favourably organized; and consequently the crime cannot be regarded so heinous, in a moral point of view. The law itself founded though it be on the mere maxims of political expediency, pays some consideration to certain extenuating or palliative circumstances in each criminal's case.

Even in the most unfortunate examples, where the tendency to some particular vice is very predominant, the phrenological code is far from being indiscriminately lenient.

The evil propensities never exist alone, or unassociated with a certain development of the virtuous feelings of our nature; and, if these be uniformly neglected, and if no efforts have ever been made to cherish their growth and to control the evil passions, the individual cannot reasonably hope for leniency from offended Justice.

We see, therefore, that phrenology is very far from inculcating the pernicious doctrines of a blind fatalism, and of unavoidable sinfulness and crime. Almost every human being is a free-acting and responsible creature, and consequently deserves punishment when he infringes the laws — the punishment being, as far as possible proportionate to the development of his cerebral organization, and to the circumstances of each individual case. The great aim and object of every wise and merciful legislation should ever be, to prevent, as far as possible, delinquencies and crimes, to punish the wilfully guilty, and to protect society from those who are incorrigible, by a regulated system of confinement and discipline.—*La Phrenologie.*

[*Remarks.*—There is much good reasoning, and some vivid illustration, in the preceding observations. Perhaps the chief error of M. Florens lies in the ambiguity, or, we should rather say, the incorrectness of his language. He talks of originally good and evil propensities, instinctive tendencies to virtue and vice, &c. Now, in truth, none of the propensities or feelings of our character are by nature primarily evil or vicious. It is the abuse or misdirection of them that renders them so, Amativeness and Combativeness, when uncontrolled by the judgment or by the moral sentiments, lead to crime and punishment; but, when obedient to the higher man, they become the source of some of the purest delights, and some of the noblest actions of our nature. So it is with the other propensities.—*Rev.*]

ALLEGED (!) AFFECTION OF THE ORGANS OF CALCULATION.

M. P., a merchant tailor, and head of a very large establishment, had been occupied for upwards of a twelvemonth with minute and laborious arithmetical calculations, to which he had been little accustomed previously. He began to experience a sense of weight and uneasiness in the lower and lateral part of the left side of the forehead; and this unpleasant feeling was frequently followed by darting and tensive pains in the region, where are seated the organs designated by the numbers 28 and 29 in the phrenological table, those of Calculation and Order. The face was pale; the pulse was small and contracted; the appetite was perfectly good, and the bowels were open. He was leeched, bled to a small amount, and used sinapised foot-baths. Dr. Place, being called in, recommended repose, and half a grain of opium, in the form of a pill, at bed time. But this treatment did not produce any benefit In spite of his anxious desire to recover his health, the patient could not prevent his mind recurring constantly to his book-keeping and accounts.

Dr. Place now endeavoured to subdue the excitement of the organs (calculation and order) affected, by exciting the action of some of the adjacent ones. For this purpose he suggested to the patient to indulge in light cheerful conversation, to avoid all serious and thoughtful discussions, and to select for reading certain " ouvrages gais futiles, dont je lui prescrivis en quelque sort la dose, c'est à dire un volume, puis deux, puis trois." The writings of Paul de Kock were particularly recommended to his notice. The piquant style of this gay and spiritual painter of manners is admirably calculated to dissipate the gloom of ennui, and in such cases as the present, is the most effectual as well as the most pleasing remedy which can be employed.

The object, which Dr. Place had in view, in recommending this style of reading to his patient, was to excite the activity of some of the intellectual faculties, which had for a length of time been allowed to be very inactive. In acting upon them in a *revulsive* manner, the two suffering organs were brought to a state of complete repose, while those of ideality, mirth, eventuality, colour, &c., were agreeably and constantly occupied. As an adjuvant, Dr. Place recommended the use of *cafe a l'eau* as a general stimulus to the whole cerebral mass. It succeeded admirably well. The patient found his spirits gratefully excited, and his sleep became more refreshing. The coffee, in conjunction with the " therapeutique phrenologique" indicated above, seemed to restore a general equilibrium of the cerebral organs.—*La Phrenologie.*

[*Remarks.*—We leave our readers to make their own comments on the preceding details. A century of similar cases, minutely examined and carefully reported, may possibly throw some light on phrenological pathology. At present, all is uncertain and very obscure.]

APOPLEXY—LOSS OF THE MEMORY OF WORDS.

M. V., sixty-one years of age, exhibiting all the appearances of the sanguineous temperament and obliged by the nature of his occupations to live a sedentary life, had enjoyed good health up to the period of the first attack, twelve years ago. He was seized with a general feebleness, and slight numbness of the entire right side, more particularly of the right arm. The use of local and general bleeding, of a seton in the back of the neck, and of purgatives internally, removed completely every unpleasant symptom, and he continued to enjoy moderately good health for the next twelve years. In November, 1836, after rather laborious exercise, he was siezed, while sitting at table, with an impediment of speech, and with powerlessness and diminished sensibility of the right side. Leeches were applied to the anus, and on the following day he was bled from the arm. For several months he remained in the same condition, with all his intelectual faculties quite clear, but not able to express his thoughts or feelings in words. Of late he has acquired a partial degree of facility in pronouncing certain words. At present he is very irritable; the right side is somewhat more feeble and less sensible than the left one. He complains occasionally of headache, which he refers to the occiput and sinciput. He retains all his mental faculties nearly quite entire, and exhibits no mental decrepitude, save the loss of the memory of words; for the memory of places and that of facts remain unaffected.

The preceding case may be adduced to shew that the different parts of the brain act, in many cases at least, independently of each other, and that the functions which they exercise may be perverted, or altogether destroyed, without being necessarily attended with any affection of the entire organ. We must acknowledge indeed that it is of rare occurrence that one faculty or power only of the mind is disturbed, while the rest retain their normal integrity; and this, be it remembered, is altogether in accordance with what we might have anticipated from pathological anatomy, seeing that any lesion of the cerebral texture is seldom limited to one small spot only. M. Rochoux indeed has, in the last edition of the Dictionnaire de Medicine, asserted that, in the present state of medical science, there are not any sufficiently authentic data to warrant us in saying, that we can distinguish the lesions of one part of the brain from those of any other part. While we are willing to admit the difficulty of the subject, we should remember that there are the high authorities of Foville, Serres, Bouillaud, and Pinel Grandchamp, to oppose to the statements of M. Rochoux.

From the ample mass of facts collected in many years experience, M. Foville has come to the following conclusions relative to the symptomatology of cerebral disease: that, when there is a lesion of the optic thalami and their radiations, the upper extremities are usually more or less affected; that, when it exists in the copora striata and their radiations, the lower extremities usually suffer; that the grey or cortical substance of the convolutions is the seat of the intellectual functions, and that the fibrous substance and the central parts are the seat of the voluntary movements.

To recur, for one moment, to the subject of the case which we have reported above, it is worthy of notice that the loss of speech may depend on two very different causes; either a paralysis of the muscles which move the tongue, or on a forgetfulness of the words which serve to express our feelings and ideas. In the subject of the present remark, the tongue retained all its varied movements in every respect; there was no appearance of paralysis or loss of power either of the lingual or of the buccal and palatal muscles, and mastication was performed without difficulty. The seat, therefore, of the affection, which had induced the loss of speech, must have been in some other part; and in all probability it was in that portion of the brain which phrenologists have assigned as the organ of language.—*Ph. Gouly.*

DELIRIUM—ALLEGED AFFECTION OF CERTAIN ORGANS.

A restaurateur at Versailles, 27 years of age, and of a highly sanguineous temperament, was suddenly seized, in the summer of 1833, with severe headache and loss of consciousness, after having been for some time exposed to the direct rays of the sun. On the following day, he became occasionally delirious, and, in the intervals of sanity, he referred the pain to his temples almost immediately above the ears. The heat of these parts to the hand was greater than that of the rest of the head. The delirium consisted in an excessive dread of robbers and assassins; he believed that there were persons constantly in his room, opening his desk, and threatening to murder him. He would get out of bed, try to make his escape, and threatened to kill any one who came near him. He was bled freely on two successive days; but the pain in the temples and a certain degree of the peculiar delirium still remained. Twenty leeches were put on each side of the head, and ice was ordered to be kept constantly applied afterwards. The symptoms now quickly subsided; and the patient was soon able to resume his business.

During the following Winter, this man was again seized with symptoms of high cerebral excitement. The pain, however this time, was chiefly in the anterior and lower part of the forehead and between the orbits, and the character of his delirious delusions was very different from what it had been during the former attack. There was now no dread of robbers and assassins about him. Instead of these unpleasant neighbours, his mind's eye perceived animals of all sorts, fruits, articles of furniture, which he would describe minutely to the attendants, and wish to be brought to him. A number of leeches was applied over the seat of the pain, and the use of the ice was resumed.

Since the date of this second attack, the patient had several relapses; and in April, 1836, he died suddenly, while in bed. It was in all probability an apoplectic seizure; but, as there was not a dissection, the exact nature of the fatal attack is necessarily somewhat uncertain.

The reporter of this case, Dr. Leroi, in his remarks on the peculiar character of the delusions in the two attacks, of which we have given a short description, calls the attention of the phrenological reader to the accordance between them and the normal functions of the organs affected.

In the first attack, the seat of the pain was immediately above and around the ears, and the delusions all bore reference to the dread of being plundered or killed, and to the means of defending himself. Now the phrenological organs, which we may suppose were chiefly affected, are those of the instinct of self-preservation, the instinct of destruction, the sentiment of property, and lastly, cunning, according to the nomenclature of Gall; or of destructiveness, combativeness, secretiveness, and love of life, according to that of Spurzheim. How rational, therefore, is the interpretation of the existing delirium, according to the principles of phrenology! Thus the very aberrations of the mind very beautifully illustrate the doctrines of these two great mental physiologists.

The reader cannot fail to have remarked the very striking difference in the mental illusions during the two attacks, to which we have alluded in the preceding report. During the first, the mind seemed to be completely and solely occupied with ideas of self-preservation and defence; whereas, during the second, when the local pain indicated the lower part of the anterior lobes to be chiefly affected, the images were those of various objects, as different kinds of fruits, animals, and articles of furniture, which the patient would in his fancy take hold of, and distribute to those around him. Now the phrenological organs, which we may fairly believe were then most affected, were those of Form, Size, and Individuality.—*La Phrenologie.*

Remarks.—We fear that all this is much more ingenious than probable. In giving this and the other cases from the reports of the French pathologists, we are very far from yielding our assent to their reasoning. To us it seems very fanciful and conjectural —*Rev.*

DEMONOMANIA, WITH DELIRIUM.

Allais was an honest workman at Versailles, well known to his neighbours as a good husband and kind father. His temper, however, was always rather testy and irritable; he could not bear a joke upon himself or any thing connected with him; and his "amour propre" was thus exposed to very frequent offence. One day his comrades had jestingly called him *Mouchard;* and from that time he seemed to be affected with a malaise and disquietude, which haunted him continually. On the 29th of February, when his doctor went to visit him, Allais opened the door, with no other covering upon him than his shirt. What was the astonishment of the doctor on entering the room, when he saw this man's cat and dog, "animaux qu'il amait," lying strangled on the floor. Upon asking him the cause of this strange violence, his only answer was, "Il le falloit." But the surprise was soon converted into horror, when he found in another room Allais' poor wife stretched out lifeless on the bed. The madman had strangled her also. When reproached with the deed, he coolly replied, "it was quite necessary, for she was the devil who wished to kill me;" and then set about repeating the litany of the Holy Virgin.

Allais was, in short, labouring under that form of insanity, which has been denominated *demonomania*. By his answers to various questions, it was discovered that during the night of the 28th, he awoke half-suffocated, suffering from a dreadful constriction of the chest, which he thought was caused by the devil. His next fancy was that the devil had assumed the shape of his wife; and under this wild delusion, he had committed the dreadful act. When he had killed her, he then strangled his dog and cat, always believing that the devil had passed into their bodies.

When taken to the "maison d'arrêt" at Versailles, Dr. Leroi examined very carefully his phrenological development. The forehead was narrow and flattened on the temples; the head rose high to the vertex, and was especially full round the ears. The organs of veneration and of marvellousness were rather largely developed; and likewise those of destructiveness, self-esteem, and love of approbation. The organs of almost all the other sentiments were small, and those of the intellectual faculties were at the minimum of development.

Such is the organization of this man —an organization, which in our opinion affords an indubitable example of the truth of phrenology. (!)

Wounded in his *amour propre* and his vanity by the foolish gibes of his associates, he became fretful and irritable; his brain gradually began to suffer, and at length insanity followed. Now what was the character of this insanity? He is haunted with visions of the devil, and strives to get rid of him. Impressed with this delusion, he kills his wife, and then his dog and cat; and, after all, he sets himself to pray and to recite the litany. The active impulses to this train of actions were undoubtedly self-esteem, vanity, marvellousness, veneration, and destructiveness. These various feelings were unchecked and uncontrolled by the intellectual faculties, which, we have mentioned above, were very imperfectly developed in his character.

If, after these details, we now ask ourselves what treatment should be followed in such a case as the preceding, phrenology answers that the only rational hope of doing any good must be founded in the attempt to excite some of the other feelings and faculties of the mind, which have hitherto been dormant and unemployed, and the exercise of which may counteract the morbid excitement of the offending ones.

This is the only true and philosophical method of treating most cases of insanity; viz. by trying to substitute healthy for deranged action. We daily see the necessity for such a course in those eccentric individuals, in whom a single idea is apt to usurp a dominant influence over the mind, and who would certainly become decidedly monomaniacal, if no repose was given to the over-excited organs, by calling into play other organs which have been long in a state of inaction.

Gall mentions that in his own case he was frequently obliged to abandon for a time the investigation of a particular idea, which had long occupied his mind, and had so excited it as to bring him to a state approaching to derangement. "I was forced," says he, "to create for myself a new and favorite occupation. I betook myself most zealously to gardening, and at length succeeded in this way to re-establish the equilibrium of my intellectual powers."

We must ever remember that to effect this important object — the tranquillizing of the morbidly-excited feelings by the substitution of those which have been feebly exercised—it is necessary that there is no "vice d'organisation" of the brain; in other words, that there is not an inordinate development of one part, and an imperfect development of another.

If such irregularity or disproportion does exist, we cannot fairly hope for much success in our curative efforts.

Unfortunately, this is the case with poor Allais, the subject of the preceding report. In him the intellectual faculties are disproportionately feeble and "impuissants," while some of the sentiments and feelings are inordinately strong. However humiliating such a reflection may be, and however unwilling we are at first to admit that some human beings are so organized that they can have little control over their impulses and emotions, we must be on our guard not wilfully to shut our eyes against the truth. Let us not forget that a doctrine, not dissimilar in its principles, is inculcated in the holy writings, where the Apostle of the Gentiles hath said, "For the children being not yet born, neither having done any good, or evil, that the purpose of God according to election might stand, not of works, but of him that calleth;" and again, "Therefore hath he mercy on whom he will have mercy, and whom he will he hardeneth."

It is difficult indeed for the finite mind of man to reconcile such a doctrine with our notions of impartial justice. Instead, however, of attempting to solve the mystery, let us rather argue in the words of St. Paul, "Thou wilt say then unto me, Why doth God yet find fault? for who hath resisted his will;

Nay, but oh! man, who art thou that repliest against God? Shall the thing formed say to him that formed it, Why hast thou made me thus?

Hath not the potter power over the clay, of the same lump to make the vessel unto honour, and another unto dishonour."—*La Phrenologie.*

ACCOUNT OF VITO MANGIAMELE, THE YOUTHFUL PRODIGY OF CALCULATION—THE PHRENOLOGICAL DEVELOPMENT OF HIS HEAD, &c. &c.

The French Institute have, at some of their recent sittings, been a good deal occupied with examing the arithmetical and mathematical powers of this extraordinary child. The public newspapers have related many of the most striking proofs of his wonderful talents, as exhibited in the answers which he gave to numerous questions proposed to him by the academicians. As no one can call in question the correctness of the statements alluded to, we deem it unnecessary to reproduce them here, and shall therefore proceed to examine the phrenological development of Mangiamele's head, and to ascertain whether the objections derived from this examination are, as has been alleged, unfavourable to the doctrine of phrenology.

The child is ten years of age, of an ordinary stature, and of a sound constitution. Under the appearance of an almost apathetic tranquillity, there is a great cerebral activity, indicated by the vivacity of look, the expressive cast of features, and the promptitude of reply on all occasions. The forehead is full and largely developed; it rises almost perpendicularly from the root of the nose. It is remarkably prominent in the middle, in consequence of the unusual size of the organs of individuality, eventuality, comparison, and causality. On the outer side or boundary of the two last-named organs, the forehead is retreating parait encore fuyant). This is attributable to the feeble development of the organs of gaiety, and some of the adjacent ones — an organization quite in accordance with the character of the child, who is much more remarkable for its thoughtfulness and reserve, than for the playful cheerfulness of its disposition. If we examine the distance between the meatus auditorius and the most projecting point of the os frontis, it will be observed that the anterior part of the head has a great depth, compared with the average depth of the part in young children.

The organs of eventuality and locality are very large, and, on the contrary, those of time and tune are relatively small—a development which gives a compressed and narrow aspect to the lower part of the forehead. The row of the perceptive organs along the arch of the eyebrow, and including those of individuality, form, size, weight, colour, order, and number, deserves especial notice. When the three first are feebly developed, the nasal prominence is large, the inner angles of the eye are near to each other, and the root of the nose looks as if it had been pinched and compressed between the fingers. Such a conformation is observed in those persons who cannot readily perceive, or call to mind, resemblances in objects. On the contrary, in those who excel in quickly seizing and remembering forms, proportions, and features of objects—as in physiognomists, portrait-painters, and in all persons, who are in the habit of saying that they can see in their *mind's eye* things and beings as if they were before them—the root of the nose is almost always large and prominent, the arch of the eyebrow commences in an inclined plane from below upwards and from within outwards, as we observe in the portrait of Vankyke, and also in young Mangiamele, who has a remarkable talent for the memory of things; "il voit mentalement les objets ou les signes des pensées dans leur place et leur ordre respectif, comme s'ils etaient ecrits sur un tableau."

The organs, situated over the middle portion of the eyebrow, are not largely developed; the eyebrow, therefore, at this part is flat, and not bulging as we see it in the heads of famous painters, like Rubens, Rembrandt, and Tintoretto, in whom the centre of the eyebrow is lofty and prominent.

The outer portion of the eyebrow is remarkably full in the head of the young Mangiamele. A similar development has been observed in Colborn, Buxton, and other arithmetical geniuses, who have shown a striking talent for numerical calculation from their earliest years.

Mangiamele was only four years of age, when he first gave proofs of his remarkable aptitude for cypering. He detected some errors in a long account, which his father had been calculating. From that date up to the present time, his mind has acquired greater and greater facility at all arithmetical operations.

But to return to his cerebral development, we are told that Nature has stamped on the forehead of this boy the seal of Pythagoras, Archimedes, Euclid, Newton, and Kepler. In him, as in them, the outer extremity of the eyebrow is elevated and prolonged backwards, the external orbitar angle of the frontal bone is depressed and advanced above the external angle of the eyelids, so that the forehead, at that point where the organ of number is situated, is remarkably prominent.

The extraordinary powers of this child are not limited merely to the faculty of remembering figures; for, besides this, he can work them, through some of the most complex operations of arithmetic, with surprising rapidity and correctness. Moreover, he bodly enters on algebraic speculations, and has taught himself to resolve equations even of the fifth degree. In working out many of these difficult problems, he pursues a method peculiar to himself and which he has devised in his own mind.

The reporter, M. Dumoutier, says that, after continuing for some time calculating, the subject of the preceding remarks sometimes complains of a pulsatory pain on the outer part of the temples, almost exactly over the organ of number.

Appended to the account now given of this youthful prodigy of calculation, there were some observations of the elder M. Broussais, in answer to certain misstatements, in the public journals, relative to Mangiameler It has been asserted that the organ of calculation was by no means very largely developed in his head. Now this assertion, says Broussais, is directly contrary to fact. The organ is full, since it maintains the elevation and the horizontal position of the extremity of the eyebrows at the temples. But in truth it is not necessary for the truth of phrenology that this organ should be enormously developed, seeing that the prodigies of calculation do not depend *solely* on the mere memory of numbers.

What is most astonishing in this child proceeds from the faculties of form, individuality, comparison, and causality.

In conclusion, it deserves to be noticed that the Minister of Public Instruction, impressed with the importance of justly educating such talents as those possessed by Mangiamele, has written to the Secretary of the Academy the following letter: "The Academy of Sciences has appointed a commission to examine the young Mangiamele. I request you to direct the attention of the Academy to the mode of education, which should be given for the purpose of insuring a quiet and regular development of his faculties. I shall do all in my power to facilitate this important object. France is the adoptive country of all talents."—*La Phrenologie.*

In a following number of the same journal, M. Florens, the advocate, resumes the subject of Mangiamele's organization. He invites all the anti-phrenologists to examine his head and satisfy themselves, whether the organs of number and causality are not very largely developed. At a lecture recently given by M. Place, the boy himself was present, and quite astonished many able arithmeticians by the extraordinary rapidity and correctness in solving the most complicated calculations.

ORGANIZATION OF THE BRAIN IN THE NEGRO COMPARED WITH THAT IN THE EUROPEAN, AND ALSO IN THE OURANG-OUTANG, BY PROFFESSOR TIEDEMANN.

The disgraceful treatment of the negroes by all the civilized nations of Europe will ever reflect the greatest opprobium on humanity. Slavery indeed, it must be confessed, seems to be coeval with the earliest historic records. It existed among the Phœnicians, Jews, Egyptians, Greeks, Romans, and Saracens, and perhaps might have existed to the present day among ourselves, had not the beneficent spirit of Christianity softened and improved the mind of man.

The traffic in negro slavery by Europeans seems to have commenced about the middle of the fourteenth century.

One of the pretended motives, which the palliators of slavery have often brought forward in defence of this abominable traffic, has been the base and dastardly allegation that the negro race is altogether a degraded and inferior section of the human family—as if the Creator had thus, in some measure, intended that they should be made the slaves of the more highly-organized tribes. This unworthy doctrine has been, if not openly avowed, certainly not contradicted by naturalists of the greatest eminence, such as Camper, Soemerring, Cuvier, Lawrence, &c , all of whom have either expressly asserted, or allowed their readers to infer, that the negroes were inferior to the white races of mankind in the organization of their cerebrum, and therefore in their intelligence and capacity for mental improvement.

The great object of M. Tiedemann's recent inquiries has been to ascertain if there be any truth in such opinions. For this purpose, he minutely examines the following two questions:

Is there any essential and important difference in the gradual development of the cerebrum in the negro from that in the European? and, secondly, is there a greater resemblance in the brain of the negro than in that of the European, to the same part in the ourang-outang?

Weight of the Brain in the European. M. Tiedemann, having carefully weighed the brains of 35 men and 17 women, has drawn the following conclusions from his experiments.

1. The weight of the brain in an adult male European varies from 3 lbs. 2 oz. to 4 lbs. 6 oz. (the pound consisting of 12 oz.)

The brain in men, distinguished by their intellectual endowments, is usually very large. That of the celebrated Cuvier weighed 5 lbs. and between 3 and 4 oz.;* and in the late Baron Dupuytren it weighed 5 lbs. and 4 oz.

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* This account appears to be strangely at variance with what has been stated

On the contrary, the brain in persons of small intellectual capacity is generally small; and in congenital imbeciles or idiots it is still more strikingly so. The brain of an idiot examined by Tiedemann was found to weigh only 1 lb. 8 1-2 oz.; and in another it was 1 lb. 11 oz.

2. The brain in the female is rather lighter than in the male. The usual weight may be stated to vary from 2 lbs. 8 oz. to 3 lbs. 11 oz. Tiedemann has never yet met with a female brain which weighed 4 lbs. In a female idiot it weighed only 1 lb. 6 oz.

On the whole, it may be asserted with truth that the brain in the female usually weighs from 4 to 8 oz. less than in the male. The brain of the new-born female infant weighs less than that of the male infant.

3. The brain does not attain its full development until the seventh or eighth year of life. Soemerring is, therefore, quite mistaken in asserting that the brain does not increase in dimensions after the end of the third year.

Drs. Gall and Spurzheim supposed that this organ continues to increase gradually till the fourteenth year. The brothers Wenzel have, however, shewn that it reaches its full development about the eighth year; and this opinion is confirmed by the remarks of Hamilton.

4. Desmoulins is of opinion that the volume of the brain actually diminishes in old age. He attributes the decay of the animal and intellectual energies to this cause.

The Wenzels and Hamilton, on the other hand, have denied the truth of the assertion.

It is, however, worthy of remark, says Tiedemann, that the brain of an old man whom I examined, 82 years of age, was very small, and weighed only 3 lbs. 2 oz.

In general, too, I have found that the cavity of the cranium is certainly of a somewhat smaller volume in old than in middle age: it seems therefore probable that the brain does actually diminish after a certain period of life.

5. It is very evident that there is a strict connexion between the absolute volume of the encephalon and the power and extent of the mental faculties.* We have already alluded to the unusual size of the organ in those of high intellectual capacities, and to its shrunk size in idiots and imbeciles. Many other observers, besides Drs. Gall and Spurzheim, have much insisted upon these points.

The weight of the encephalon generally remains the same, although the other parts of the body may become either greatly increased or diminished in their dimensions. Hence the brain is relatively larger in lean than in lusty persons.

At the period of birth the relative size of the brain is very lage, weighing nearly one sixth part of the whole body. It becomes gradually less and less as the child advances in age. Thus at the end of the second year, the relative bulk of the brain to that of the whole body is as 1 to 14; at the end of the third year, as 1 to 18; at the end of the fifth year, as 1 to 24; and at a subsequent period, it is not more than as 1 to 35. This last proportion continues, with a slight change, during the rest of life; varying, as a matter of course, very much according as the person is lean or very stout

The brain of the female is very often somewhat larger than that of the male, in proportion to the bulk of the whole body.

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a few pages back in the description of Cuvier's character. The weight of his brain is there mentioned to have been 3 lbs. and rather more than 10 oz. There must be a diversity in the weights employed. Perhaps one was by the German and the other by the French scale.

* Such an admission as this from so distinguished an observer cannot fail to be acceptable to the phrenologist. Be it remembered, however, that, in estimating the power and extent of any mind, attention should always be paid to the temperament of the individual.

The Brain of the Negro.—The brain of a young negro, 14 years old, was found by Soemerring, to weigh 3 lbs. and rather more than 6 oz. Sir Astley Cooper weighed the brain of a full-grown negro, and found it to be only 3 lbs. and 1 oz. The brain of a negro, who died at Liege, weighed not more than 2 lbs. and 3 oz.

Such isolated statements as these, however, cannot go for much in assisting our present inquiries. It would be necessary to weigh the brains in a number of negroes about the same time of life, before we can hope to attain to any accuracy on the subject; and hitherto we are not provided with data sufficiently numerous and accurate. We are, therefore, obliged to have recourse to the measurement of the capacity of the cranium to assist us to determine the point.

Capacity of the Cavity of the Cranium.—The crania, in M. Tiedemann's experiments, were first weighed with, and also without, their inferior maxillæ: they were then filled with millet seed by the occipital foramen. The increase of weight gave their volume or capacity. By examining in this manner 41 crania of the negro race, and 77 crania of the Caucasian race, he arrived at the conclusion that the capacity or volume of the cranium in the former is not at all smaller than in the latter.

M. Hamilton has confirmed the accuracy of this statement by his own researches.

These facts, says M. Tiedemann, demonstrate that the opinion of Camper, Soemerring, Cuvier, Lawrence, Virey, &c., as to the inferior development of the negro cranium, is quiet at variance with the truth. The first of these naturalists was led into error by taking what he called the facial angle as the guide of his measurements. According to the researches of M. Tiedemann, such a measurement is extremely apt to be fallacious in estimating the absolute size of the cerebrum. So much for the encephalon in negroes.

M. Tiedemann then compares the medulla oblongata and spinalis in the negro with the same parts in the European; and he assures us that in no respect is there any difference appreciable. Soemerring had asserted that some of the cerebral nerves, especially the olfactory pair, are smaller in the negro than in the white race. This too is quite a mistake, according to Tiedemann.

With respect to the brain in the ourang-outang, when compared with that in any of the races of mankind, M. Tiedemann states:

1. That it is smaller, lighter, and more contracted in all its dimensions, as from above below, from forehead to occiput, and also from side to side.

2. That, in proportion to the size of the nerves which issue from it, it is smaller than the human brain.

3. The cerebral hemispheres, relatively to the medulla spinalis, the cerebellum, the corpora quadrigemina, and the thalmi optici, are smaller than in the human brain.

4. The convolution and the furrows are not so numerous or so deep.

5. The only resemblance which can be seen in the brain of the negro and that of the ourang-outang, consists in the convolutions and furrows being more symmetrical than is observed to be the case in the brain of the European.

From a review of all his researches, M. Tiedemann has drawn the following conclusions respecting the brain in the negro.

A. That the brain in the negro is, in its totality, as voluminous as in the European, or in any other of the human races. The weight of the organ and the dimensions and capacity of the cranium demonstrate the truth of this statement.

B. The cerebral nerves in the negro are, relatively to the size of the encephalon, neither larger nor thicker than in the European. The assertion, therefore, of Soemerring and his disciples to the contrary is quite erroneous.

C. The outer surface of the cerebellum and of the medulla oblongata and medulla spinalis in the negro, is altogether similar to that in the European.

D. The internal structure, and the distribution of the cortical and medullary substance exhibit no traces of any peculiarity in the negro.

E. The brain in the negro differs in no respect from that in the European, except, perhaps, that its convolutions and grooves appear to be "un peu plus symmetriques:"—even this slight peculiarity is probably not constant.

M. Tiedemann, having thus discussed the organization or development of the brain, then proceeds to offer a few remarks on the intellectual capacities of the negro.

As the brain is the organ through the medium of which we exercise the powers of mind, in the same way as the eye is the organ of vision and the ear of hearing, it is but reasonable to suppose that the extent and activity of these powers may vary with the development of the organ. Admitting the truth of this position, it has been rashly asserted by some that the negro race must be necessarily inferior to the rest of mankind, in consequence, it has been said, of the lower degree of their cerebral organization.

Our author has ably shewn the utter groundlessness of the premises, and he has thus most triumphantly overthrown the odious doctrine which has been founded upon them. He has zealously endeavoured to prove that the mental capacity in the negro is by nature as great as in any of the white races; and closes his ingenious disquisition by appealing to all the best feelings in favour of the long-despised and oppressed people of Africa.—*Gazette Medicale.*

ON ENCEPHALIC IRRITATION—ARACHNITIS, HYDROCEPHALUS ACUTUS, &C.—IN INFANTS, BY M. PIORRY, TREATMENT OF CERTAIN CASES BY ENEMATA OF PERUVIAN BARK.

(*A Memoir read before the Royal Academy of Medicine.*)

The knowledge of diseases, essentially founded on the anatomy and physiology of man in health and in disease, has made in our days indisputable progress. We have already dscovered, in a series of determinate symptoms, the primitive source of the general phenomena which are manifested. We have seen that excitation, irritation, congestion, phlogosis—limited usually to one organ, sometimes to one apparatus, more rarely to one system, and least frequently still to several tissues viewed as a whole—are the local causes of constitutional disturbances. Such an improved etiology has necessarily led to an improved method of treating diseases. We must confess, however, that the success of our treatment has by no means corresponded with our advances in pathological anatomy; and certainly in no disease does this remark hold so true as in the malady, to which we have given the name of Infantile encephalic irritation, and which has been by different writers called Hydrocephalus acutus, cerebral Fever of infants, Arachnitis, &c. &c. This very diversity of nomenclature is a sufficient proof that the knowledge of this disease is still very imperfect.

Some writers regard it as an essential febrile affection, usually of an ataxic or malignant type; and hence they have denominated it as infantile cerebral fever, a name which M. Gendrin has of late years wished to restore.

Cullen, as is well known, classed it among his apoplexies; and Pinel treated of it under the head of dropsies, and retained the name of *hydrocephale aigue.*

The admirable pathological researches of MM. Lallemand, Rostan, and Martinet have shewn how very often it is connected with an inflammation of the arachnoid membrane. M. Piorry, however, confesses that he is far from being satisfied with the doctrine of limiting the disease to a morbid state of the arachnoid membrane alone. He remarks, very justly, that the arachnoid membrane does not seem to exercise much influence on the cerebral functions in a state of health, and that it can be, only by its contact with the brain, that it can affect these functions. If arachnitis is accompanied with delirium, this symptom must be attributed only to the sympathetic, perhaps coexistent, irritation of the cerebral substance; if it is attended with spasmodic contractions, disturbance of the sensual perceptions, &c., the real seat of these morbid phenomena is no doubt in the encephalon itself. The old hypothesis of sensibility being in any way resident in the cerebral membranes is now very justly exploded.

We are thus almost forced to the conclusion that the symptoms of the disease, which has been called arachnitis, are mainly attributable to irritation of the encephalon; and here let it be well remembered, that this irritation may be induced by the diseased states of distant organs as well as by those of the investing membranes of the brain itself.

We thus see the error of designating the series of morbid phenomena, which constitute the disease of acute hydrocephalus, by the name of arachnitis.

A child suffers from indigestion and deranged stomach and bowels: severe headache, convulsions, and delirium follow. Are we to suppose that this child has an attack of arachnitis? Certainly not. It would be absurd to suppose that the stomach irradiated the diseased action on the brain through the medium of its envelopes.

The true interpretation of the case is, that an irritation of the encephalon itself has been induced by sympathy with the disturbed stomach and bowels.

Here is an illustrative case.

A child in the Rue St. Honore, four years of age, and habitually robust and plethoric, became suddenly very ill. He was constantly moaning and crying, had occasional strabismus, and at other times a spasmodically fixed state of the eyeballs, convulsive oscillation of the iris, contractions of the limbs, grinding of the teeth, and loss of consciousness. The pulse was quick and hard; and the capillaries of the face were highly injected. All these symptoms had come on very rapidly.

M. Piorry discovered that the child had been eating a large quantity of potatoes and other indigestible substances; and, on examining the stomach, he found it distended and tender; on pressing it, nausea was induced. He ordered a quantity of hot water to be given immediately, with the view of exciting vomiting and thus emptying the stomach, and several leeches to be then applied behind the ears.

The symptoms very speedily subsided, and the young patient was as quickly cured as he had been suddenly seized.

The rational interpretation of such a case is to attribute the cephalic symptoms to an irritation—arising probably from a temporary congestion—of the encephalon itself, and surely not of its investing membranes.

The most alarming symptoms, even paralysis itself, may be induced by a mere temporary fulness of the cerebral vessels, and may be as quickly dissipated by appropriate treatment.

This fact is well illustrated in the following case.

Made. la Comtesse de St. M——, residing in the Rue Vivienne, No. 8, is upwards of 70 years of age. Although tried by a succession of the most bitter misfortunes, her disposition is cheerful, her fancy lively, and her health is on the whole very good, with the exception of occasional attacks of nervous symptoms. She has been long subject to an umbilical hernia, which is but ill kept up, and during the last three years she has had several apoplectic threatenings. After dining upon rather indigestible food one day, she was seized with a difficulty of speech, vertigo, confusion, distortion of the mouth, and powerlessness of the right arm. She soon became quite insensible, and lay in a state of apoplectic stupor, breathing stertorously, and her pulse very slow and full. On examining the abdomen, M. Piorry found the hernia large, distended, and hard. When he attempted to reduce it by firm pressure, the gesture of the patient indicated great suffering. The apoplectic state continued for half an hour; but no sooner was the hernia replaced, than suddenly the patient recovered her speech and consciousness, and soon afterwards all the unpleasant symptoms, physical as well as mental, completely vanished.

M. Piorry alludes to a similar case, which he saw along with Dr. M. Solon, and in which the apoplectic syptoms continued for a quarter of an hour, and then suddenly ceased.

He admits that in many fatal cases, where delirium, cephalalgia, and other cephalic symptoms have prevailed, we usually find traces of arachnitis, while often no lesion of the cerebral substance is discoverable. But he very justly adds, "how frequently too is the arachnoid membrane in such cases found quite healthy, and some distant viscus only exhibits signs of disease? He therefore reverts to his former position, that there is not a single symptom, that is usually described as indicative of arachnitis, which may not be induced by disturbance of some distant organ, and more especially of some of the abdominal ones.

The cerebral irritation may prove fatal, before any appreciable lesion of structure has had time to be established; and every practical physician knows well how often his prognosis, as to the nature and extent of the morbid change in fatal head affections has but ill accorded with the appearances found on dissection. So true is this, that the cautious practitioner will always hesitate to pronounce, with any degree of assurance, the pathological characters of any cerebral disease.

Besides this source of difficulty, it ought to be ever borne in mind that, in general, dissection reveals to us only the more confirmed and serious morbid lesions, and that it scarcely assists us in ascertaining the earlier and lest distinct changes of tissue, such as we may suppose to attend the first stages of a disease. How true is this more especially of cerebral disease! How often do we find no traces at all of morbid action, in cases too which have existed for a great length of time, and which have been accompanied with well-marked and even alarming symptoms?

In reference to the encephalic irritation of infants, Dr. Piorry is of opinion that the most frequent cause of this most insidious and dangerous malady is "une excitation pathologique" of the primæ viæ. Hence the primary importance of correcting such a disorder at its very commencement, and of counteracting its tendency to return by careful attention to diet.

Dentition also is a fruitful source of cerebral disease in infants. The proximity of the seat of pain, the increased action of the blood-vessels, and the general feverishness thus induced, will serve to explain this cause of encephalic irritation.

Internal otitis, or inflammation of the inner ear, has been repeatedly noticed as antecedent to this malady. The same may be said of the sudden retrocession of any eruptive disease on the scalp, of which the following may be taken as an example.

A girl, 13 years of age, had been long affected with tinea of the scalp. She had been once seemingly cured; but it returned with even aggravated severity. Dr. Piorry succeeded in dissipating it quickly by pursuing a rigid antiphlogistic and emollient treatment, local as well as general. A week or two after this date, she began to suffer a most acute pain over the eyebrows, and this was speedily accompanied with delirium. Fever set in; the carotid arteries beat furiously, the pulse was hard and frequent, the eyes were fixed on the ceiling, there was occasional twitching of the muscles in different parts, the face was alternately flushed and pale, and the bladder ceased to expel its urine. On withdrawing the wather by means of the catheter, the young patient was much relieved; the delirium subsided, and intelligence was restored for a few minutes; but soon afterwards the stupor, alternating with convulsions, returned, the pupils became dilated, and the body perfectly motionless. She died on the ninth day after the commencement of the cephalic symptoms.

A dissection was not permitted.

In fine, as to the *causes* of encephalic irritation in infancy, we may state that the large dimensions of the head at this period of life, the tender sensibility of the whole system, the pains and distress of dentition, the development of the intelligence, the numerous new impressions made on the body, the excitable and easily-deranged state of the primæ viæ, &c.—all these influences combined will very well account for the predisposition of cerebral affections in early life.

With respect to the *symptoms*, it is

unnecessary to enter upon a minute description of them. There is one, however, to which M. Piorry directs the attention of the reader with especial earnestness, as being indicative of alarming disease of the brain—he alludes to a certain involuntary rolling of the eyes, followed by a fixed turning of them upwards.

The child keeps the eyes fixed on the ceiling; he seems to be looking at something there, and yet it will be found that he sees nothing. This state lasts for a few minutes. The pupil is usually dilated for the time, and the eyelids are half open. "Before," says M. Piorry, "I commenced the use of lavements of Peruvian bark in such cases, almost all the infants who had exhibited this symptom died."

Another symptom of encephalic disease, which well deserves the careful attention of the physician, is the frequent alternation of the heat and coldness of the surface, and of the flushing and paleness of the face.

This symptom is however more frequently observed, and more distinctly marked in inflammation of the medulla spinalis, than even of the encephalon itself.

And now as to the treatment of this serious disease.

"In the first part of this memoir," says M. Piorry, "I have related fourteen cases of cerebral affection. In the first five, the fatal course did not seem to be at all arrested by the antiphlogistic and derivative plan of treatment which was pursued.

In the sixth one, this plan was attended with success. In the seventh, the clearing of the stomach by emetics, and then the application of leeches behind the ears proved successful.

In the four following cases, the encephalic disturbance of long standing, and otherwise remarkable by a more or less distinct intermittance of the symptoms, was speedily removed after the employment of lavements containing Peruvian bark.

In the last three cases—and in these there had been no alternations of heat and cold—the Peruvian bark seemed to have had no effect."

M. Piorry does not, however, at all undervalue the importance, indeed the necessity, of antiphlogistic measures in most cases of encephalic irritation, more especially during the earlier stages of the disease. The use of leeches, cold to the head, purgatives, diuretics, &c. is quite indispensable.*

It is only when the disease has continued for some time, when the vital powers have been considerably reduced, and above all, when there is a marked intermittence of the symptoms—indicated by alternations of heat and chilliness of the surface, of flushings and paleness of the face, and of exacerbations and abatements of the convulsions and other symptoms—that he so strongly recommends the use of lavements containing the Peruvian bark.

In alluding to the use of purgatives in encephalic irritation, M. Piorry repeats an observation, which he had previously made, that the disease is very frequently preceded by a slight degree of diarrhœa. He cautions the physician against the unguarded use of purgatives, especially of such as are acrid, under such circumstance. He assures us that he has, oftener than once, seen the cerebral affection become aggravated immediately after the action of such a medicine. The employment of emollient enemata, and a most rigid attention to the diet of the child, are all that is sufficient to correct the state of the bowels. The use of calomel, or of some other preparation of mercury, may be proper, when the intestinal evacuations are slimy, green, and offensive. On the whole, however, M. Piorry greatly prefers the administration of purgatives in the form of enemata.

With respect to blisters in cerebral diseases of children, M. Piorry recommends that they should not be used, until the violence of the feverish symptoms has abated, and until the action of the carotid arteries and of the circulation generally is reduced. All remedies, whose action is attended with so much pain as accompanies vesication, had better be avoided in the earlier stages of the disease.

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* The practice, recommended by M. Piorry, is more active and depletory than most English physicians will be inclined to adopt. One or even several venæsections, and from 20 to 50 leeches to the head are, in his opinion, the appropriate treatment of the early stages of cerebral congestion in infants.

As to the application of ice, and cold lotions to the head, M. Piorry approves of them on the whole. He however very properly remarks, that, whenever the heat of the surface is below the natural standard, and the features are pale and at all shrunk, all such depressing medicaments are to be discontinued.

To revert for a moment to the use of bark injections in cerebral affections, we have already explained the circumstances in which M. Piorry recommends their use—it is only when there is a tendency to intermittence of the diseased action, or to an alternation of heats and chills, excitement and depression of the animal powers. He candidly confesses that he was indebted to M. Hippolite Cloquet for the first hint of this most useful practice.

The four cases, which he has narrated in the present memoir, are, he thinks, quite decisive of the utility of the practice under appropriate circumstances.

He has witnessed its good effects in certain cerebral affections of adults. A man, 50 years of age, was subject, at a certain hour on every alternate day, to attacks of mania with a disposition to commit suicide. All the unpleasant symptoms gave way to the internal use of Peruvian bark.*

M. Piorry has not witnessed good effects from this remedy in any case, where the symptoms have been uniformly continued and have not exhibited any tendency to intermittence.

The following conclusions embody a faithful summary of the doctrines inculcated in M. Piorry's memoir.

1. During the life of a patient, it is impossible to affirm with certainty that he is affected with arachnitis, as all the symptoms of this disease are present in a cerebral irritation, which may be induced by sympathy with a distant organ.

2. The symptoms of arachnitis are much more frequently observed in infants and young children, than in adults. We have accounted for this greater frequency, by reference to the large relative size of the head, the process of dentition, the tender and irritable state of the *primæ viæ*, &c. &c.

3. The eyes being turned upwards and fixed constantly on the ceiling, is one of the most alarming symptoms of cerebral irritation in early life.

4. The primary indication in the treatment of this affection is to discover the organ, whose disturbance has given rise to it.

5. Copious depletions of blood are quite necessary in the early stage of most cases.

6. With respect to the propriety of bloodletting in cerebral irritation, we should not be guided much by the state of the pulse at the wrist, but rather by the force of the pulsations of the carotid arteries. M. Piorry dwells upon this point of practice at very considerable length. He mentions having repeatedly observed that the pulse at the wrist was small and feeble, while the carotid and temporal arteries were beating with great violence. When this state of things exists in the early stage of the disease, we need have no dread of bloodletting, either general, if the child be old enough, or local by means of leeches: in the more advanced stages, when the vital powers have been necessarily much reduced by the continuance of the morbid action as well as by the depressing remedies which have been used, we require to be very cautious in ordering further depletions.

7. After bleeding, we may have recourse to derivative applications; but we should avoid as much as possible those, which cause much pain and irritation.

8. In applying ice and cold washes to the head, attention should be paid to the removing of them, whenever the pulse becomes weak and the surface of the body chilled.

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* Most of our readers will probably recollect the memorable case of periodic insanity in the person of Mr. M'Kerrel, narrated at great length by Dr. Johnson in one of the late numbers of this Review.

9. The symptoms of infantile encephalic irritation exhibit, in very many cases, a decided tendency to intermittence, indicated by the alternations of flushing and paleness of the face, heat and chills of the skin, &c.

10. In all such cases the use of Peruvian bark will probably be attended with benefit. The best form to administer it is in enemata. From two scruples to two drachms may be administered at a time.

M. Piorry has not found quinine nearly so efficacious as the bark in substance.

11. The best time for the administration of the bark enemata is when the face is pale, and the system is low and languid.

12. The suspected existence of gastric or enteric irritation is not to deter the physician from the exhibition of bark —*De l'Irritation Encephalique des Enfans, by P. A. Piorry, published in the Repertoire Medico-Chirurgical Bruxelles, Aout,* 1837.

Remarks. The practical physician will no doubt be much pleased with the preceding remarks on a very frequent and very dangerous malady of infants from so talented an observer as M. Piorry. We regret to find no allusion, in his memoir, to the use of opium and carbonate of ammonia in the latter stages of certain cases of cephalic irritation, or what has been too frequently called, with little or no discrimination, hydrocephalus acutus. We have often employed them with great benefit, when all other remedies, and more especially all of a depressing nature, would have been positively injurious.

It requires indeed a nice discrimination of symptoms, and not a little tact as well as decision of practice, to determine the cases, in which these powerful remedies ought to be employed. In our own experience we have been guided rather by the state of the child during its sleep, than by the presence of any particular symptoms.

When the breathing and the pulse are regular and equable, though weak and rapid, when the power of deglutition remains perfect, and when the decubitus or posture of the infant in bed is easy and natural, the cautious administration of opium, combined with an ammoniacal salt, will often save the patient. The diet at the same time must be made nutritious but light. Nothing is so good, or so easily given as beef-tea. The feet and bowels should be kept warm; the head should not be raised high by pillows, and above all the child should not upon any consideration be lifted up, as a fatal syncope is apt to supervene. If there is the slightest tendency to diarrhœa, it should be checked at once by opiate enemata.—*Rev.*

M. Louis on the Value of Auscultation as a Means of Diagnosis.

(A Clinical Lecture at the Hôpital de la Pitié.)

M. Louis commences his lecture by assuring his pupils that no one can be more impressed with the high value of auscultation, as a means of diagnosis in thoracic diseases, than he is himself. He then proceeds to describe the various precautions which must be followed, if we hope to arrive at much exactitude in its employment. He shews the importance of the patient being placed in a right position, of both shoulders being level, and of the arms and neck being in an easy state of relaxation. The condition of the thoracic muscles has a marked influence on auscultatory phenomena; and the physician will be apt to commit errors, if he neglects to attend to any of these, apparently trifling, particulars. M. Louis particularly impresses upon his pupils the propriety of always ausculting the corresponding parts of the two sides of the chest, the one immediately after the other.

This rule should never be neglected. If the two sides, at any one part, emit the same or very similar sounds, there is strong reason to believe in the soundness of the lungs at these points. It is the disagreement in the sounds heard at the corresponding points of the two sides, that leads the physician to suspect the existence of mischief. We therefore repeat the advice, "*always examine the corresponding points of the thorax at the same time, the one immediately after the other.*"*

M. Louis then alludes to the position, which the physician himself should select in making his examinations—let it be easy, and without constraint or irksomeness: otherwise he can never hope to detect the less obvious sounds.

He differs from Laennec as to the preference of *mediate* over *immediate* auscultation. He in many cases prefers the naked ear to the use of the stethoscope, and assures us that he has often succeeded in discovering shades of difference in sounds, which had quite escaped his notice, when using the instrument. "Thus," says he, "the cases, in which *mediate* auscultation is to be preferred, are very rare, and all that can be found out with the stethoscope may be as well discovered without it."

Normal Sounds. The respiratory murmur is that light, silky, expansive sound, which is heard during healthy inspiration. It is most distinct over the anterior and lateral parts, and over the lower two thirds of the back of the chest. It approaches nearly to the blowing sound,—bruit de souffle—in the space between thevertebral column and the posterior edges of the scapulæ, on a level with the origin of the bronchi. This somewhat blowing respiration—which exists also, but in a less degree, towards the sub-spinal fossæ—is more distinct on the right than on the left side; a circumstance worthy of attention; as a person, unaware of its truth, might regard it as a sign of disease.

The larger size of the bronchi on the right than on the left side—a fact discovered by Dr. Gerhard of Philadelphia—accounts for this difference.

The respiratorymurmur is heard only during inspiration. At the moment of expiration, it ceases altogether, or nearly so, except behind in the upper third of the chest. Here we may still hear a murmur, similar to, but more feeble than, that heard during inspiration.

The various sounds now described vary, as to intensity, according to the age and embonpoint of the person, and the force of his breathing; but their essential characters are much alike in all, during a state of health.

Resonance of the Voice. When we make a healthy person speak, while we are auscultinghis chest, we hear a general resonance or echoing, which is loudest behind, between the upper and middle thirds of the chest, at the point where the respiratory murmur was perceived to be somewhat blowing. These two phenomena are owing to the same cause, and this slight bronchophony is somewhat stronger on the right than on the left side—a circumstance to be well remembered, in ausculting these parts.

Abnormal Sounds. The murmur of respiration undergoes various modifications in disease. The most simple of these modifications is the diminution of its strength or loudness. This occurs in pulmonary emphysema. Its degree is generally proportioned to the duration of the disease, and it is always more complete on the anterior than on the posterior part of the chest—for the emphysema is almost invariably most extensive at the former part. If it occurs over the whole thorax, and is not very considerable, there may be some uncertainty as to its real cause; for the force of the respiratory murmur varies a great deal in different persons. But if it is limited to one side, or to one part of the one side, and is found to exist, more or less distinctly, on several repeated examinations, we have reason to suspect that it is attributable to some pathological cause. Besides pulmonary emphysema, pleurisy, phthisis and pulmonary catarrh often induce a very decided diminution of the respiratory murmur. In these diseases however, the diminution of its strength is never the only symptom; it is always associated with other more characteristic changes.

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* The same good advice is much insisted upon by Dr. Stokes in his recent work on the Diseases of the Chest.

In pleurisy, when the effusion into the thorax is not very great, we may still perceive the murmur through the effused fluid; but it is always much less distinct than over the corresponding part of the opposite side. The weakened murmur is perceived to be, as it were, deep-seated. It is usually feeblest over the inferior and posterior parts of the chest; whereas in emphysema, as already noticed, it is so anteriorly and superiorly. Besides, in this disease the murmur is heard to be more superficial, and has a dry sound, having lost "sa souplesse ordinaire."

In phthisis pulmonalis, it is over the upper and fore parts of the chest that the diminution is always most decided.

In catarrh, it is limited and not permanent; and, as it depends, in this disease, on the obstruction of the small bronchi with mucus, the murmur is always most distinct after a sharp fit of coughing.

Thus the mere diminution of the intensity of the respiratory murmur may, independently of the presence of any râles, lead to the diagnosis of several affections of the lungs; not with much certainty indeed, but at least in such a manner as to afford very strong presumption of their existence. In studying this symptom, we should always pay much attention to its seat or localization, its persistance, its degree of proximity to, or distance from, the ear of the auscultator, and to its dryness or its pliancy.

Absence of the Respiratory Murmur.—Sometimes the murmur is quite inappreciable over a greater or less extent of one, or partially of both sides of the thorax. Such a state may exist when a large tumor presses on the more considerable bronchi, as in some cases of thoracic aneurysm, or when there is an extensive effusion of air or water into the cavity of the chest. In these two last cases, auscultation, independently of other means of exploring the chest, is attended with considerable uncertainty: percussion is then of the greatest importance.

Alteration of the Respiratory Murmur.—One of the most remarkable changes is the "respiration amphorique," or "bourdonnement amphorique," heard when the air enters a large cavity through a narrow orifice. Its presence leads the physician to suspect either a large cavity in the pulmonary substance, caused by the melting down of tuberculous matter—and in such a case the sound is always to be heard towards the summit of the lungs—or by gangrene of some portion of the lungs, or an enormous dilatation of one or more of the bronchial tubes. In estimating the importance of this auscultatory sign, much will depend on the situation where it is heard. If heard towards the apex of either lung, there is at once reason to suspect a tuberculous cavity. Still, however, it is possible that one of the large bronchi may have become much dilated at this point, and that the pulmonary tissue itself is quite sound. The adroit use of percussion, along with due attention to what are called the *rational* symptoms of the case, will speedily remove all uncertainty.

Bronchial Respiration is one degree less than the "amphoric blowing." It is quite analogous to, or rather identical with, the sound which we hear if the ear is applied over the trachea of a healthy person. Bronchial respiration exists whenever the air passes through the bronchial tubes, without reaching the pulmonary cells.

In the cases where the aerial tissue of the lungs changes its condition, and becomes more or less solidified, bronchial respiration is one of the most certain signs of the red and grey hepatisation of the pulmonary structure—those lesions which constitute the second and third stages of pneumonia.

They are generally found posteriorly, and much more frequently near the base than towards the summit of the lungs.

2. This auscultatory sound is present also in some cases of pleurisy; but then only in an indistinct and masked degree: besides, it is audible only at one part of the chest; this part varying.

with the quantity of the effused fluid, and the position of the patient.

3. Dilatation of the bronchial tubes in another disease, in which this sound is heard. Then, it is always persistent in the same place.

4. Bronchial respiration is one, among other signs, of the presence of unsoftened tubercles. It is, therefore, always a suspicious symptom when we have reason to suspect a tendency to phthisis.

The unpractised auscultator must be on his guard, however, not to confound the ordinary respiratory murmur, when rather louder and rougher than usual, with the true bronchial respiration. Experience alone will enable him to avoid this mistake. In this, as indeed in all cases, much assistance will be obtained by examining most attentively first the one side, where the sound is heard, and then immediately afterwards the corresponding part of the other side; remembering, all the while, that in the healthy state the respiratory murmur is usually rather louder and somewhat more dry and bronchial on the right than on the left side.

In all the cases, now mentioned, in which the bronchial respiration is heard, the organic alteration of the lungs presents a certain similitude. The pulmonary tissue is condensed by inflammation in pneumonia, and by the the compression of the effused fluid in pleuritis; while, around dilated bronchi, it is always more or less indurated; and in phthisis the air-cells are occupied with the hardened tuberculous matter.

The phenomena of expiration are usually more or less affected in all cases, where the bronchial murmur is heard. It is more prolonged and blowing than in health. To judge aright of the value of this sign, we must remember that expiration, which in most persons takes place without any audible murmur, may nevertheless be accompanied by a slight bruit, without being indicative of any disease—provided always the sound be nearly equally distinct on both sides.

At the same time that the expiration becomes prolonged, the inspiration loses its soft and silky murmur, and assumes a rougher and coarser character. These two phenomena add mutual importance, the one to the other. When, therefore, both are perceivable under the clavicles in a delicate young subject, we have strong presumptive grounds to fear the existence of tuberculous disease. Let it, however, be well remembered that our apprehensions may be thus awakened, ere yet the disease has made great progresss, and while it is still a good deal under the control of the healing art.

Between bronchial respiration and the amphoric blowing sound, auscultators admit another, to which the name of *cavernous respiration* has been given. Whenever this sound is heard, we may be quite assured that there is a cavernous excavation in the pulmonary tissue communicating with several of the bronchi.

Now such an excavation may be produced in four different manners.

1. By the melting down of tuberculous deposits. When this is the case, we always find the cavernous respiration towards the summit of the lungs. The place or situation, therefore, indicates the nature of the existing lesion.

2. In the progress of a pneumonia, when an abscess or vomica is formed—a termination, it must be acknowledged, of very rare occurrence—the cavernous murmur becomes audible at the time that the abscess first communicates with any of the open bronchi.

In such cases, as those now alluded to, this auscultatory phenomenon is usually heard towards the base of the lungs.

3. An excavation in the pulmonary substance may be produced by partial gangrene—the gangrenous portion being melted down, and then either absorbed or discharged into the adjacent bronchia.

4. It may be the effect of an enormous dilatation of some of the bronchi.

In the two last-mentioned cases, the mere *locality* of the cavernous respiration does not, as in the two former, assist the physician in his diagnosis of the existing lesion. In phthisis, it is almost invariably preceptible towards the apex of one or of both lungs; and in vomica from pneumonia it is most frequently detected near their basis. On the other hand, when it is the result of gangrene or of dilated bronchi, there is no part where it is oftener heard than another. We must, therefore, trust to some of the other symptoms to assist us in our diagnosis.

Modifications of the Resonance of the Voice.—The most remarkable of these modifications is that one which is known by the name of *bronchophony.* It always accompanies bronchial respiration. Whenever, therefore, this is heard any where, we have only to cause the patient to speak, while our ear is applied to his chest, and the sound called bronchophony will be heard.

The one necessarily goes along with the other. They are discoverable in—

1. The first and second stages of pneumonia.

In this case the bronchophony is constant, remains for several days, and varies in extent and intensity, according to the severity of the existing disease.

2. Dilatation of the bronchi.

In this affection it has not always the same distinctness and force—depending on the greater or less degree of the induration of the pulmonary texture, around the dilated bronchial tubes.

3. In tuberculous deposits.

When it proceeds from this cause, it is always heard towards the summit of the lungs, under the clavicles, or in the supra and sub-spinal fossæ of the scapulæ. The remarks which we have made on this subject, when treating of bronchial respiration, are quite applicable here.

Thus the farther we advance in our examination of auscultatory phenomena, the more we become satisfied of the great importance of attending to the *situation* where they happen to be detected—the same sign belonging to several lesions, which differ not only in their essential character, but all in their locality.

4. In pleurisy the bronchophony manifests itself at the posterior and inferior part of the chest; which circumstance alone would not be sufficient to distinguish the nature of the affection, but which, when taken in conjunction with another character, will go far in determining this point. This circumstance is the possibility of its displacement or change of locality with the effused fluid, at least during a certain length of time. This displacement, however, is not absolutely necessary to render the diagnosis certain, when the bronchophonic sound assumes that peculiar modification, known by the name of *œgophony.*

We may admit, as a general rule, that œgophony, variable though it be in intensity and often not of easy detection, is truly pathognomonic of pleuritic effusion—provided this effusion be in moderate quantity, neither very scanty nor very abundant.

But let it be remembered that neither the locality of the bronchophony at the lower and back part of the chest, nor the possibility of its displacement by change of posture, is to be regarded as an absolute and invariable sign of pleurisy. To satisfy you of this truth, I need not mention that Laennec has seen more than one case of numerous detached adhesions between the opposite pleuræ; these adhesions isolating one effusion from another. In such circumstances it is evident that an effusion may be found suspended, so to speak, at different elevations, each effusion too being quite incapable of any displacement.

Another difficulty sometimes presents itself. In certain subjects the pleuritic pain is very inconsiderable, the resonance of the one side of the chest, on percussion, is not very different from that of the other, the œgophony is indistinct, and the only auscultatory phenomenon, that is very manifest, is a slight abatement of the respiratory murmur. In such a case, are we to suppose that there is any effusion? If there is indeed any, it must be in a very trifling quantity.

With respect to the etiology or rationale of œgophony we must acknowledge that it is not very obvious.

Laennec attributed it, in a great measure, to a certain degree of *flattening,* which the bronchi experienced from the compression exercised upon them by the effused fluid. In addition, however, to many other arguments against this doctrine mentioned by Laennec himself, there is another which may deserve notice. When strong and thick adhesions have taken the place of the effused fluid, the flattening of the bronchial tubes may still be supposed to continue, and the œgophony therefore should be heard as before; which is not the case. We are not prepared with any interpretation of our own to propose; and we shall, therefore, quit the subject, with merely repeating that œgophony has a marked resemblance to bronchophony, differing from it only by a peculiar modification; viz. the bleating sound.

Another variety of bronchophony is the sound designated by the name of *pectoriloquy*—a phenomenon similar to that, which would be perceived if the patient spoke directly into the ear of the auscultator. The indispensable condition of the occurrence of this very peculiar sound is the existence of a cavity in the pulmonary tissue, communicating with one or more of the bronchial tubes. It is met with in phthisis, when the vomicæ have acquired a certain dimensions, and are surrounded with an indurated tissue; in abscess of the lung succeeding to pneumonia; in gangrene of the lung; and in enormous dilatation of a bronchial tube.

We need not again point the reader's attention to the importance of the seat or locality of the pectoriloquy, as in some degree indicative of the lesion which has produced it. It not unfrequently happens that even a large cavern may exist in the lungs, and yet no pectoriloquy is ever audible. Such is the case when there is no communication between the cavern and any considerable bronchus, or when it is in a great measure closed up.

Of the Rales. The auscultatory signs, which we have hitherto described, are, all of them, merely morbid or abnormal modifications of the respiratory murmur. We shall now examine another series of phenomena, which are no less important, but whose "point de depart" is not to be founded in the normal state of respiration. This series comprehends the *rales*, which have been distinguished into two classes, the dry and the moist.

The former—the dry *rales*—may be reduced to the two principal ones—the sibilant, and the sonorous *rale*.

The sibilant *rale*, may be compared to a fine prolonged whistle, grave or acute, dull or clear. It is found to occur in—1. Emphysema over a greater or less extent of the thoracic parietes. When strong, it sometimes quite conceals the respiratory murmur. 2. Catarrh is another disease in which it occurs—then it is usually more limited, and is often observed to move from one point to another; a circumstance which is not apt to take place in pulmonary emphysema. 3. The sibilant rale is also met with in a large proportion of typhoid cases. M. Louis says, "it occurs in three-fifths of the cases, usually about the eighth day of the disease, and over the whole extent of the chest"—[dans les affections typhoides, il se manifeste dans les trois cinquiemes des cas ordinairement vers le huitieme jour, et dans toute l'etendue de la poitrine.] Some physicians have regarded it, under these circumstances, as indicative of inflammation of the bronchi. The quickness, however, with which it frequently ceases, is opposed to this conjecture; and it is altogether more rational to attribute it to the presence of a small quantity of fluid in the bronchial tube.

The *sonorous rale* is a grave and often noisy blustering sound, resembling sometimes a loud snoring, at other times the cooing of a dove, or the booming of a bass violin. It usually is found at the commencement and during the progress of a pulmonary catarrh. Laennec attributed it to the contraction of the bronchi, especially at the angles of junction of any two of them, in consequence of the tumefaction of their lining mucous membrane.

The *moist rales* are of more frequent occurrence than those of a dry character. They are also, on the whole, more important as signs for diagnosis, and may often, *per se*, suffice to distinguish many pulmonary affections. One of the most common is the—

Mucous Rale. It has been compared to the noise, which is made when air is blown through soap-suds, or any viscid fluid. This râle is heard in—

1. Pulmonary catarrh: it then exists on both sides of the chest, and progressively descends.

2. Phthisis, when the tubercles have softened, and their contents begin to be evacuated into the bronchial tubes.

3. Pneumonic abscess, pulmonary gangrene, and dilatation of the bronchi.

The mucous râle is usually confined to one side: by itself, it cannot be regarded as a pathognomonic sign of any disease. There are several shades or varieties of the mucous râle, according to the size of the bullæ caused by the air passing through the mucous fluid.

Crepitant Rale has been aptly compared to the crackling noise, which is heard when we throw salt on a live coal, or when we rub a piece of dry parchment between the fingers. It exists in one disease only, pneumonia and is truly pathognomonic of it, or rather of its first stage—that of pulmonary congestion or *engouement*. It is a fine clear sound; and when it exists, we rarely can hear any distinct respiratory murmur.

Although the crepitant râle is pathognomonic of the presence of pneumonia, yet this disease may exist, and no such râle be heard. This therefore is a most important fact, and should never be lost sight of by the practical auscultator. When the rational symptoms of pulmonary inflammation exist, the absence of the crepitant râle is not to sway our diagnosis to the contrary.

MM. Andral and Chomel have particularly insisted upon this point. In numerous cases have they found that, when the pneumonic inflammation was deep-seated in the substance of a lung, and confined to a few of its lobules, the crepitant rale is often not at all discoverable.

There is another circumstance respecting this *rale*, which deserves to be well known to the physician. In some persons, in a state of perfect health, it is audible over every part of the chest, when they take a deep inspiration for the first time—after which, it altogether ceases. Is this owing to the presence of a small quantity of mucus in the small bronchi, or to the extension (deplissement) of their lining membrane? This latter conjecture will perhaps be deemed the more probable, if we consider that the sound is quite analogous to that heard in a new-born infant, when the air enters for the first time into the chest.

There is a variety or modification of the crepitant râle, distinguished by the appellation of the *sub-crepitant rale*.

The former is a finer, clearer, drier, and a more equal and uniform sound; the latter is coarser, and more humid, approaching to the character of the mucous rale. This distinction is of great importance. The one is pathognomonic of genuine pneumonia, the other of pulmonary catarrh.

The subcrepitant rale is heard especially in—1. Acute pulmonary catarrh; its constant seat in this disease is the posterior and inferior part of the chest, usually on both sides at the same time; sometimes it extends upwards; but at first it is always heard lower down towards the base of the lungs. It varies according to the stage or progress of the catarrh, and rarely masks completely the respiratory murmur.

Laennec has stated that the subcrepitant rale is one of the chief signs of emphysema. There is some doubt as to correctness of this statement, for this reason; the seat of pulmonary emphysema is almost always in the upper and anterior part of the lungs, and there, therefore, the rale should be heard; whereas such is seldom or never the case.

2. Pulmonary œdema, according to Laennec. M. Louis does not seem to assent to this assertion.

3. If the subcrepitant rale is heard on one side only of the chest, at the lower and posterior part, it is indicative of either tubercles or more rarely dilatation of some of the bronchi. There is no exception to the accuracy of this

remark. Of between five and six hundred cases of pulmonary catarrh, which I have examined, says M. Louis, during the last five years, the subcrepitant rale was heard on both sides of the chest in every one of them without exception.

4. It is heard not unfrequently at the upper part of the chest, and then, of itself, it is almost a sufficient index of the existence of tubercles.

You have lately seen, Gentlemen, a case, very illustrative of this point, in a woman affected with chronic peritonitis: in her, there was a subcrepitant rale audible at the upper part of the chest, and there only. This symptom confirmed the opinion which I had already formed, that the disease was of a tuberculous character.

I may mention, en passant, that I have never met with a case of chronic peritonitis, which has not been more or less obviously of a tuberculous origin.

Having thus shortiy discussed the various rales, we shall now allude to another auscultatory sound, known by the name of *metallic tinkling*. It is a clear, silver sound, exactly similar to that produced by the dropping of a pin or small-pointed object on a glass or metal vessel.

It is heard in two cases only, viz. when a large excavation exists in the substance of the lungs, or when there is a perforation at some part of the pulmonary pleura, so that there is a communication between the air-tubes and the cavity of the pleura.

For the production of this sound it is necessary that there be a pretty considerable cavity, containing a small quantity of fluid and a large quantity of air. Laennec accounted for this very peculiar sound by attributing it to the falling of a drop of fluid, usually purulent, from the upper to the lower part of the cavity. Of late years M. Beau has suggested another interpretation. He is of opinion that it is produced by a large bubble of air rising through the contained fluid and bursting on its surface. In support of this explanation, he states that he has never met with the metallic tinkling in any case of perforated pulmonic pleura, where the orifice was above the surface of the fluid in the pleural cavity.

The last auscultatory sign, which we shall notice, is that which has been called the *rubbing sound* (bruit be frottement.) It is a valuable diagnostic sign; but often very difficult of detection, and one which the inexperienced auscultator may very possibly be deceived in, if any clothing intervenes between his ear and the patient's chest.

It is heard occasionally in—1st. Interlobular emphysema of the lungs.

2. In the very early stage of pleurisy, before the process of effusion has commenced, and also towards the very close of the disease, when the effused fluid has been re-absorbed, and nothing remains but false membranes.

3. Lastly, in some pneumonic cases which are almost entirely cured, there is heard for a long time a very distinct crepitating sound; which, coinciding with a certain degree of obscurity in the respiratory murmur, may impose on the auscultator, and make him believe that there still remains an *engouement* or inflammatory congestion which cannot possibly exist.

It is probable that the sound is owing to the rubbing of the false membranes, as yet very imperfectly organized. The reticulated texture of these membranes, when one is rubbed against another, may very probably give rise to the persistant crepitating sound.

Such seems to me the interpretation of this auscultatory phenomenon.—*La Presse Medicale.*

HÔPITAL NECKER.

(Clinical Lectures of M. Bricheteau.)

PHTHISIS PULMONALIS.

Pathology of Tubercles—Treatment by Emetics and Issues.

During the present year, 1837, the number of phthisical patients in Bricheteau's wards has been, as usual, very great.

This physician has, for a series of years, paid minute attention to the pathology of this most destructive disease, and more especially to the anatomy of tuberculous deposits in their primary or earliest stages. He acknowledges his obligations to M. Rochoux, who seems to have set the example of studying the phenomena of these formations from the period, when they are first appreciable by the senses.

He (M. Rochoux) is of opinion that tubercles at first consist of corpuscles or granules, which are similar to those we observe in the buffy coat of inflamed blood. These corpuscles he has described to be of about one-tenth of a line in diameter, of a nacreous colour, and susceptible of assuming all the shades of hue intermediate between grey and rose-colour.

They are of a softish consistence, but are not diffluent. If we cut a mass of such tubercles across with the scalpel, the surface of the section is found to be homogeneous, and free from the admixture of any other tissue. At a later stage of the formation, they become rounded and circumscribed; they are attached to the pulmonary tissue by a number of loose filaments, which form an envelope, like a spider's web, around them.

When extracted from the pulmonic tissue with the point of a sharp instrument, a tubercle, in its earliest stage, surrounded with its filamentous covering, seems to lose itself in the midst of a cloudy opacity, when it is immersed in water. It again becomes visible when taken out, the shaggy filaments falling together as before.

When the tubercle has attained the diameter of the tenth of a line, its colour usually changes somewhat. Its shining gelatinous aspect gradually changes into a greyish, or greyish-yellow hue.

The phenomena, which we have now described, are visible to the naked eye; but they are rendered much more distinct with the use of a small microscope.

If confirmed by future observers, these observations clearly shew that the opinion of Magendie, Cruveilhier, Andral, and Carswell—all of whom maintain that tuberculous matter is at first in a fluid state—is incorrect.

The doctrine, that there exists at first a minute deposit of serum or of blood according to some, and of hydatidic vesicles according to others, is equally fallacious.

If asked, what is the real nature or composition of a tubercle at its very earliest commencement, we must answer, says M. Bricheteau, with M. Rochoux, that there exists an atom of vitiated fluid (un atome de liquide vicié)* which combines with the already-diseased tissue of the lungs, and ultimately changes their texture. It may be, if we choose so to say, an alteration of nutrition, of *hematosis*, which ultimately produces a degeneration of tissue.

In all probability, the morbid change commences in the inter-lobular cellular substance of the lungs.

M. Bricheteau confesses that he is not acquainted with any symptoms, indicative during life of this, the earliest stage, of tuberculous formation. He is still busily occupied with researches in this most important subject, and proposes ere long to publish the results in a separate work. The remainder of M. Bricheteau's memoir is occupied with an account of the *antimonial treatment*, as he terms it, which he has found to be very useful in the earlier stages of phthisis.

During the whole course of the present year, 1837, except in the warmest months July and August, several phthisical patients were daily submitted to the treatment by minute doses of emetic tartar. In general, young subjects, in whom the disease was in its first or second stage, were selected for the trial. A few, however, in the more advanced stages were also subjected to this medication.

In every case, without exception, the patient confessed himself relieved at first by this mode of treatment. Some became soon tired of it and refused to persevere; in others diarrhœa supervened; but the greater number were able to continue its use for a considerable length of time.

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* There appears to be some incongruity between this statement, and one, made a few lines previously, that tuberculous matter is not at first in a fluid state.—REV.

In many, the sweats and expectoration were very promptly mitigated; or the pains in the chest were relieved, and all the symptoms were much ameliorated. In a few, the medicine did not appear to exert any decided effect. We may safely assert that the greater number received very decided benefit from the antimonial treatment, even when the disease had made great progress. The following may be adduced as an example in point.

A young man, 17 years of age, had been sent to Paris in a forlorn state. The existence of a cavity in the right lung was acknowledged by all, who examined him. He remained in the hospital for nearly a twelvemonth; during which period, at different intervals, he took the antimonial mixture, and had several issues (made by the actual cautery) established under the right clavicle and below the scapula on this side. He returned home perfectly well, and continued so for four months—the date of his being last seen.

Another patient was a washerwoman, 38 years of age. The disease was still in the first stage, when she was subjected to the treatment by the emetic in small doses (l'emetique à petites doses), and by deep cautery issues established below the clavicle, on the diseased side.

A third successful case occurred in a semstress, 30 years old, and mother of several children. The signs of confirmed tuberculous disease of the right lung were unequivocal; cough, purulent expectoration, the gurgling sound, (gargouillement), and night sweats. In less than a month, under the antimonial medication, her health was greatly improved; the sweats had ceased; the cough and expectoration were nearly gone, and the patient had recovered her strength and embonpoint. When she left the hospital, she was "dans un etat très satisfaisant;" but M. Bricheteau was anxious to have induced her to stay longer.

The last case was still more satisfactory, as to the results of the antimonial treatment.

The patient was a female, 60 years of age. There was a distinct pectoriloquy heard over the upper part of the right side of the chest: in addition to this auscultatory sign, all the usual rational symptoms of phthisis were present. The antimonial mixture administered to this woman, for 15 days consecutively, never failed to produce, at each dose, two or three fits of vomiting. The effects of this medication were so decidedly beneficial, that the most distressing symptoms of the disease were speedily much mitigated; the cough, expectoration, and general feebleness became greatly less; the appetite returned, and the gurgling, heard over the summit of the right lung, ceased to be audible. When she left the hospital, six or seven weeks after the date of her admission, her condition was on the whole highly satisfactory.

The antimonial mixture, used by M. Bricheteau at the Hôpital Necker, contains from one to three grains in five ounces of water and one of syrup. A large table spoonful of this mixture is usually given morning and evening; but, if this quantity produces no effect, another spoonful is administered in a quarter of an hour after the first dose. If diarrhœa is brought on, pills composed of ipecacuan and digitalis powders are used. The diet consists of rice and other "potages" made with milk: the ordinary drink is milk, diluted with any farinaceous decoction.

In lecturing upon the employment of the antimonial medication in pulmonary phthisis, M. Bricheteau mentions that many years ago he attended, along with MM. Portal and Hallé, a young lady who had been sent to Paris for the benefit of metropolitan advice. The impression on the minds of all was, that she could not possibly recover; so far advanced was the disease. The doctors, we are told, were politely dismissed, and a quack was called in. He gave the patient, for several days successively, an emetic. It was astonishing what benefit this treatment seemed to produce at first: all the symptoms were much mitigated for a short time; although the patient died quite as soon as if no means had been used, the disease being in its third or last stage.

M. Bricheteau, however, drew a useful hint from the circumstances of this case; and ever afterwards he has been in the habit of resorting to the treatment, described in the preceding page. —*Gazette des Hopitaux.*

Remarks.—It is really very annoying to find the descriptions given by French writers, of diseases and therapeutic means so obscure and unsatisfactory as they usually are.

Much of the preceding memoir is, to say the truth, far from being intelligible. It is rather from accidental intimations or allusions, than from positive statements in it, that we are led to infer what the treatment, pursued by M. Bricheteau consists in. We were uncertain at first whether the antimonial was given as an emetic, or merely as an expectorant and diaphoretic, until we came to nearly the end of his paper. We now understand that he employs it to excite vomiting.

The treatment of the earlier stages of pulmonary consumption by the frequent-repeated use of emetics is certainly a very rational and often too a successful plan. In this country, however, the sulphate of zinc or of copper is justly preferred to the use of any antimonial preparation. The former medicines are much less apt to impair the energies of the system, or to disorder the intestines, than the latter.

Along with the use of emetics, the establishment of a caustic issue over the suspected seat of the disease, the breathing of a pure and mild air, and the use of a nourishing but not stimulating diet, will be found in most cases of decided benefit. No faith has ever been, or is likely to be, attached in this country to the foolish and utterly unprofessional doctrines of such a writer as Dr. Ramadge; although we observe by the French journals that he has imposed, for a time, on the credulity of our continental neighbors by his bold assertions. Even they are now beginning to find out their mistake, in listening to such an adviser.—*Rev.*

INFLUENCE OF CLIMATE ON PHTHISIS PULMONALIS.

Every one is aware that it has been the practice for many ages to send consumptive patients to warm climates. The recent researches of M. Costallat have very satisfactorily shewn that the genuine tuberculous disease of the lungs is of rare occurrence in tropical countries. We believe that the truth of this remark is confirmed by most practitioners in southern latitudes.

In the recent edition of M. Laennec's immortal work, edited a year ago by M. Andral, there is a very useful statistical summary of the best-known facts on this important subject.

In one of the most northern countries of Europe, Sweden, and more particularly in its metropolis, the mortality from pulmonary phthisis appears to be very small—not exceeding 63 in every 1,000 deaths. In London, on the other hand, it is calculated that 236 of every 1,000 deaths is caused by this destructive disease. What an appalling mortality!

Dr. Crichton found that phthisis is infinitely more frequent in Great Britain, than in the northern parts of Russia.

In the temperate regions of Europe, comprised between the fifty-fifth and forty-fifth degree of latitude, phthisis is much more frequent than it is further to the northward.

Thus throughout Germany, and more especially at Berlin, Munich, and Vienna, it is much more destructive than at St. Petersburg and Stockholm. In Paris and London it is still more common and fatal. While at Vienna and Munich its ravages amounts to an eleventh or tenth of the whole mortality, and at Berlin only to a fifteenth, they equal a fifth in London, and nearly the same proportion in Paris.

In the southern parts of Europe, from the forty-fifth to the thirty-fifth degrees of latitude, pulmonary consumption is still found to be a very common disease; and, in this region, there are said to be some places, where it is even more frequent than in the north. Thus it has been calculated that at Marseilles it causes nearly one fourth of the entire mortality; at Geneva, a sixth; and at Naples, an eighth.* On the other hand at Rome, the mortality has been estimated not to exceed one-twentieth of the whole.

At Madrid, Lisbon, Gibraltar and Malta the deaths from phthisis are very numerous. Even between the twentieth and tenth degrees of northern latitude, it does not cease to shew itself. Thus it is tolerably frequent in the Antilles.

From these statements it appears, that pulmonary phthisis is a disease which is found more or less frequent in almost all climates; that a cold temperature is not essentially and *per se* favourable to its development; and that in some warm climates it is more frequent than in those farther to the north.

M. Berge (the author of the article from which we have drawn these remarks) comes to the conclusion that a residence in a warm climate, *where the temperature is steady and not subject to great variations*, is certainly beneficial to those persons who have a phthisical predisposition, or in whom even the early stage of the disease has manifested itself; but that it is rather injurious than otherwise to those, in whom the morbid changes of the lungs are far and seriously advanced.

The statistical researches of Drs. Renton and Heniken of Madeira may be adduced in support of the accuracy of his statement.

These two talented physicians unhesitatingly declare, that a residence in that island will often prevent the development of the disease before it has fairly shewn itself, but that it cannot cure the evil, when once established.

The following table, drawn up by the former of these physicians, will be found instructive.

Of 47 patients in confirmed phthisis—

32	died within six months after their arrival on the island.
6	died on their return to Europe.
6	remained on the island, and died.
3	fate unknown.
Total 47	

Of 35 cases of incipient phthisis—

26	were apparently cured, when the patients left the island. They remained quite well, when last heard of.
5	were benefited; but were subsequently lost sight of.
4	died.
Total 35	

It is now an acknowledged truth after change to a warm climate, when the disease is far advanced, is most injurious. It generally accelerates the fatal termination.

Almost every British practitioner, who has resided in a tropical country, admits that a hot climate aggravates all the symptoms, after a certain period of the malady.

Dr. Ferguson of Jamaica very pointedly alludes to this, in describing the diseases of that island.—*Journal des Connoissances Medico-Chirurgicales.*

Remarks. We are induced to append a few remarks to the preceding, as the subject is one of great practical interest to the physician. We shall first allude to the climate of the South of France; as, for a great length of time, this district held a high, but, as we shall find, a most unmerited repute for the salubrity of its climate to phthisical invalids.

The entire district from Montpelier eastward to the boundary of Piedmont is subject to great vicissitudes of weather. The heat is often intense, and irritating from its dryness, during a great length of time. A bitter cold North-East wind (mistral) may then quite suddenly set in, and continue to blow for several days successively; so that a fire is even necessary in the middle of Summer. Such a climate, it is obvious, must be most hurtful in all pulmonic diseases.

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* Perhaps the writer includes in this estimate all the patients sent from England and other countries, who may chance to die at these places.

It was altogether a most singular error—an error which remained so long undisputed—that physicians should ever have selected Montpelier, as a residence for phthisical patients.

It has completely lost the repute which it enjoyed for so many years; more especially from its having been, of late years, well ascertained that phthisis is by no means an unfrequent disease even among the natives of the place.

The climate of Marseilles, although somewhat more favorable than that of Montpelier, is liable to the same objections. It cannot therefore be a suitable residence for consumptive patients.

That of Hyeres is decidedly much better. On the whole, perhaps this is the best place in the South-East of France which can be selected.

With regard to Nice, Sir J. Clark and other observers agree that, although its climate is more genial than that of most places on the South Coast of France, in consequence of its being protected from the cold northerly winds by the high range of mountains behind, it is far from being a desirable residence for invalids suffering from pulmonary complaints. The air during the warm months is exceedingly dry and irritating; and hence, whenever there is a disposition to inflammatory action, it cannot but be unfavourable.

With respect to the climate of Italy, in reference to its influence on phthisical disease, we find that, until of late years, very erroneous ideas have prevailed among medical men. It used to be the custom to send patients, threatened with or actually suffering from tubercular affections of the lungs, to Italy; without distinguishing those places which are proper, from those which are now known to be positively injurious.

Within the last twenty years, a great change has been effected in this respect; and we do not now hear of such unwise and indiscriminate advice being given by any medical man. The climate of Italy is much better suited for many other diseases than for pulmonary consumption; except perhaps for the very earliest stage of this malady. As summer residences, the baths of Lucca, Sienna, or the neighbourhood of Naples, are perhaps the best which can be chosen.

As winter abodes, Rome, Pisa and Naples are usually preferred. The climate of Rome is less dry and irritating than that of Nice or of Provence. It is said that about one third more rain falls at Rome than in the latter country, and the number of rainy days is considerably greater.

Sir J. Clark says that he is inclined to prefer the climate of Rome to that either of Naples or of Pisa, when the patient can take exercise in the open air. On the other hand, when it is necessary for him to be kept from much exposure, perhaps no place in Italy is equal to the neighbourhood of Pisa.

The climate of Naples is more subject to winds, and its atmosphere is rather more exciting, than that either of Rome or of Pisa. It is, on the whole, not so well suited for phthisical patients as they are.

One great evil of the climate of Italy, in almost every part of the Peninsula, during the Summer months is the sirocco wind, so enervating and exhausting to all whose health is delicate.

None of the islands in the Mediterranean presents a very desirable residence for phthisical invalids. The want of suitable conveniences and comforts in most of them is a great objection; and in Malta, which is perhaps the only one to which this does not apply, the climate is far from being favorable. According to Dr. Hennen, the mortality among the natives from consumption is very great; amounting, it is said, to nearly one tenth of the whole.

We shall now briefly allude to the climates of the islands in the Atlantic, which have been recommended for consumptive diseases.

In almost every respect, Madeira is to be preferred. Although its mean annual temperature is only about six degrees higher than that of the South of France and Italy, this temperature is much more equable and uniform through the different seasons of the year. Thus, while the Winter is twelve degrees warmer, the Summer is nearly five degrees cooler—the range of temperature being thus little more than one half of what it is in the most favoured spots of the South of Europe.

In steadiness too of temperature from day to day, Madeira is a most favoured climate. It is found, moreover, that it is nearly as humid as the climate of Rome, although the number of rainy days is much fewer—being in the one place 73, and in the other 117.

It is almost unnecessary to allude to the climates of the Canary or of the Azores islands; as they have no advantages over that of Madeira, and, in other respects, the conveniences of residence are greatly inferior.

We shall now briefly allude to those parts of our own island, of which the climate is considered to be most favorable to phthisical patients. They are all situated on the South or South-West coast. In Cornwall, the neighbourhood of Penzance and of Flushing; in Devonshire, Torquay, Dawlish, Sidmouth, and Salcombe; Hastings in Sussex; and Undercliff in the Isle of Wight, have all acquired a reputation for the comparative mildness and salubrity of their climate. Perhaps the best are Penzance, Torquay, and Undercliff. The climate of the first of these places is remarkable; equal and uniform throughout the year; the annual mean variation not exceeding 18°, whereas in London it is at least 26°. The chief objection to Penzance is the extreme humidity of the atmosphere, and the frequent recurrence of very high boisterous gales. The quantity of rain which, it is said, falls at Penzance is nearly double that which falls in the metropolis; and the number of rainy days is much greater. From these causes, and from its exposure to the north and north-east winds, the climate is colder during the Spring, than either at Undercliff or at Torquay.

One very great advantage of Torquay is the considerable extent of sheltered country in the the neighbourhood; thus the patient is enabled to take exercise in the open air, from whatever direction the wind is blowing. Its position also, observes Dr. Clark, on the southern declivity of a range of pretty steep hills, composed chiefly of calcareous rocks, renders it comparatively dry.

Before quitting the subject of British climate, we may allude to the Channel Islands, as they are occasionally resorted to by invalids.

On the whole this climate resembles that of Devonshire, although it is somewhat warmer, and more exposed also to high winds. During the Spring months there is often a long continuance of cold north-easterly winds, which are perhaps the most trying of all to patients suffering from pulmonic complaints.

The Summer season is generally very delightful. Jersey is in all respects the island, which should be preferred.

CASE OF ACUTE PHTHISIS—ANALYSIS OF THE CASES REPORTED IN M. LOUIS' WORK—REFLECTIONS ON THE SUBJECT, by DR. D'ESPINE, of Geneva.

Josephine Polian, 20 years of age, was seized in 1836 with an acute disease, which obliged her to take to bed on the 31st of December, and proved fatal on the 26th of the following month, January.

The reporter goes on to give the reader a history of his patient's father and mother, the number of family they had, how long she (the patient) was nursed, what diseases she had in infancy, where she was educated at first, how long she remained at the different schools, how she had a nasal catarrh for several months when she was seven years old, how porrigo of the scalp supervened, when the catamenia appeared, and lastly, that she never had suffered from hæmoptysis, rheumatism, nor leucorrhœa!

This is all quite after the newest German fashion; but, as the information is not likely to amuse the English reader, we shall pass it by.

All that appears to us necessary to be mentioned is simply, that the girl was of a tender constitution during her early years, and had rather a scrofulous taint of body.

For many months preceding her last illness, she had suffered much from anxiety, and various distressing mental emotions.

It was about the beginning of December, 1736, that she began to experience a cough, which she attributed to exposure to cold, caught a few days before. General constitutional disturbance, indicated by anorexia, weakness of the limbs, and a restlessness of the whole system, succeeded. On the following week, it was remarked that the hair fell off in great quantities, and that shewas constantlycomplaining of chills, and of flying transitory pains in different parts of the chest.

During Christmas week, all the unpleasant symptoms were aggravated; she felt so weak that she could not walk about without staggering, and experiencing a sense of painful dizziness; her appetite was completely gone, and she generally rejected by vomiting whatever food she attempted to take; and, lastly, the cough and expectoration—the sputa being still of a yellowish-grey colour, and free from all admixture of blood—had increased. As already mentioned, she took to bed on the last day of the year; and, from this date, the disease ran on in a most rapid course, for between three and four weeks to its fatal termination.

During the first week of January, the cough was violent and very frequent; the sputa were opaque, dense, and slightly streaked with blood; the breathing was attended with a plaintive moaning sound; the sleep was restless and disturbed with feverish dreams; and she was occasionally slightly delirious, when she first awoke in the morning.

Dr. d'Espine saw the patient for the first time on the 9th. Her breathing was then hurried and distressed; the sound, which attended it, was rather moaning than rough or noisy; the cough was very frequent and troublesome; the sputa were of a thick consistence, yellowish colour, and tinged with dark blood; and the pulse was rapid, but soft and regular. She answered questions with difficulty, complained of humming noises in her ears, and said that it was rather an indescribable uneasiness than any positive pain, that she felt in her chest.

On auscultation, the respiratory murmur was heard over all points of the chest, accompanied at certain places with a vesicular expiration; no blowing nor crepitating bruit was audible; neither was there any bronchophony; but a sonorous and mucous rale was heard occasionally here and there. Although the patient had by this time lost a good deal of flesh, she was far from being much emaciated.

During the next eight days, under a mild antiphlogistic regimen, the cough and expectoration abated in severity and frequency; but some of the other symptoms, such as the inward anxiety about the præcordia and the restless agitated sleep, appeared to be worse than before. She said that she suffered very little pain anywhere; and yet every part of her frame seemed uneasy; the breathing was very frequent, and the pulse retained its former rapidity. Auscultation—which however could never be very minutely performed, in consequence of the restlessness of the patient, and her inability to sit up for any length of time—afforded the same phenomena as on the first examination: the expiration was vesicular at several points, the respiratory murmur "un peu ruds." the sonorous rale less strong and distinct, and there was little or no blowing, crepitating, or bronchophonic sound perceptible anywhere.

On the 18th of the month, the patient complained much of tenderness in the left hypochondriac region, and, on examining this part, the spleen was felt to be unusually prominent. In consequence of this symptom, added to certain epigastric phenomena which had recently attracted attention, the idea came across our mind, says M. d'Espine that the disease of our patient was of a typhoid character; it being difficult to account for the gravity of the symptoms altogether by a simple pulmonary catarrh.

From the 18th to the 25th of the month—the day preceding her death—the chloruret of lime was administered both by the mouth, and also in enemata.

[This practice was no doubt suggested by the idea of the case being typhoid.] —*Rev.*

The cough became less troublesome,

and the expectoration less copious; but the breathing was still more hurried and oppressed than before, the pulse was as rapid as ever, and now the lips and angles of the mouth were covered with dark-coloured sordes, and the tongue was dry and parched, as we see it in cases of malignant fever. The thirst was as distressing as ever; the abdomen was tender, especially in the left hypochondriac region; the delirium recurred at uncertain intervals; and the general exhaustion became greater and greater. The pulse rose to 140; the dyspnœa was so great that the poor girl was forced to sit up constantly in bed, in spite of her extreme weakness.

On the morning of the 26th, the distress of breathing was excessive; the face was livid, as we see it in threatened asphyxia; and the general inward suffering was altogether most agonizing to witness. She was happily relieved of all her misery about six o'clock in the evening.

Dissection.—The body retained a considerable degree of embonpoint.

Both lungs were found to be adhering throughout almost their entire extent, to the ribs so firmly that, in removing them from the thorax, a great portion of the pleura costalis was torn off.

The lungs presented an uniform violet-red colour: they did not crepitate when pressed between the fingers, nor did they convey the sensation which hepatised or tuberculated lung does. Upon making a long incision through the entire depth of their substance, the pulmonary tissue exhibited a deep livid hue, mottled with numerous points of tuberculous matter. The tubercles varied in size from that of a grain of rice to about half the size; they were of a yellowish opaline colour, and of so firm a consistence that the scalpel quite grated against them; and they could not be squeezed together between the fingers. The whole substance of the lungs was occupied with them, so that there was scarcely half an inch of extent in any part that was free from them.

They were, however, less numerous, and also of a smaller size and of a less decided colour, as we traced them down from the apex towards the base of the lungs. The interposed celluar substance was every where congested; but this morbid appearance also was not so decidedly marked at the base, as at the superior portions, of both lungs. At no part, however, was the pulmonary substance hepatised; nor did it any where exude on pressure any purulent mucosity.

The two lungs appeared to be, in every respect, similarly affected with the disease.

The other viscera of the body were found to be nearly quite healthy. Even the spleen, which had been suspected during life, was only "assez volumineuse," but not sensibly softened in texture.

Remarks.—Judging from the symptoms in the preceding case, a physician could scarcely have been led to have suspected any other disease but, in the early stage, a severe febrile catarrh, threatening to be converted into a pneumonia; and, in the more advanced stage, a typhoid affection associated with bronchitic distress.

Now the post-mortem examination has most clearly disproved the existence of the latter malady—we mean the typhoid affection—as the intestinal mucous glands were found at every part of the gut to be quite sound; and, on the other hand, it has convinced us that all the symptoms were entirely referable to the rapid development of numerous tubercles, throughout almost every part of both lungs. It was, in short, a most genuine case of that form of pulmonary phthisis which has been designated *acute phthisis*, and which is characterised by great constitutional disturbance and a general febrile movement of the whole system, from the time at which the more severe thoracic symptoms set in until the death of the patient.

It is one variety of what has been vulgarly called "galloping consumption." The symptoms never fairly abate, far less cease, for any considerable length of time. The breathing becomes more and more distressed, the pulse is uniformly quickened, the sleep is restless and disturbed with dreams or with delirium, the appetite fails, and every function of the body is more or less deranged. On dissection, the lungs are usually found studded with numerous crude and here and there partially softened tubercles, the intervening interlobular tissue being congested with dark-coloured blood.

The other form of "galloping consumption" is that, wherein a bronchitic attack supervenes on tubercular phthisis, when the tubercles have advanced to softening and suppuration, or perhaps vomicæ have already been formed. The inflammatory action of the mucous lining of the air-passages, coming on in such a diseased state of the lungs, gives rise to a series of symptoms, similar somewhat to that described as characteristic of the first-mentioned form, and in general very speedily proves fatal.

After these preliminary observations, M. d'Espine proceeds to give the following analysis of four of the cases of acute phthisis, detailed in M. Louis' work

Duration.—The difficulty of determining this point satisfactorily, arises from the uncertainty of the precise data, at which the disease may be said to commence. We need scarcely say that the tubercles are already formed before the series of symptoms, which we have described above, commences.

In the preceding case, the period when the patient took to bed (conveniently expressed in the French language by the word *alitement*) was exactly 26 days before the disease terminated fatally. The commencement of the sub-febrile irritation of the system may be dated a fortnight, and that of the cough at least a month, previously. During all this time, however, the patient was able to be going about.

In two of the four cases of acute phthisis reported by M. Louis, the commencement of the severe symptoms was ushered in with a regular febrile attack, and the cough did not supervene till 24 hours in one of the cases, and 10 days in the other, afterwards. In the third case, the commencement was marked by the extreme oppression of the whole system; this was followed by diarrhœa, cough, and pain in the left side; and it was difficult to determine when the regular feverish symptoms might be said to have begun.

In the fourth case, which lasted for 50 days, cough, anorexia, and then pain in the side, ushered in the attack, and the fever was not distinctly appreciable until 11 days subsequently.

If we are to date the commencement of the attack in the case, which we have related above, from the setting-in of the cough, its duration would be 56 days, while in four cases related by Louis' it was 35, 48, and 50 days. In the remaining case death was induced by an attack of secondary pneumonia, which proved fatal on the 28th day after the beginning of the other symptoms.

Pathological Anatomy. — Although the duration of the disease in the preceding case exceeded by a few days that of any of M. Louis' cases, it is remarkable that the lungs were studded only with crude tubercles, and did not exhibit any mass of conglomerated or infiltrated tuberculous matter, nor any trace of softening of their substance, far less of any excavation or vomica.

One only of M. Louis' cases was similar to our's in these respects. It is the fourth one—that which proved fatal on the 28th day, in consequence of the supervention of a pneumonic attack, and the induced hepatisation of a great portion of the pulmonary substance. In this case the lungs were found studded with numerous isolated grey tubercles, which were more numerous, as a matter of course, near the summits than the bases of the lungs.

In the other three cases, portions of the lungs were found infiltrated, to a greater or less extent and degree, with tuberculous matter, softened and partially broken down. In one of these cases, there was a distinct cavern or excavation, similar in every respect to those we see in chronic phthisis, except that it was not lined with false membranes.

It would be an error, however, to conclude from these few cases that the deposition of the tuberculous matter had taken place in the short time, which we have affixed to the duration of the disease. In two or three of M. Louis' cases, there had been a disposition to cough and hurried breathing, although it is expressly stated that the health of the patients had been, previous to the attack, perfectly good.

The most rational inference from all such facts is, that tubercles may be present in the pulmonary tissue for a length of time, and to a great extent, without being necessarily accompanied with very distinct constitutional disturbance.

This circumstance gives rise to many important reflections to the physician. It shews him how cautious he must be in pronouncing an over-confident assurance of no danger in any case, where there is the slightest reason to suspect tubercular disease; although there never has been any well-marked phthisical symptom, such as hæmoptysis, flying pains through the chest, hectic feverishness, or any of the auscultatory signs of the disease present.

We have mentioned, in the account of the dissection in our case that the pulmonary substance between the various tuberculous deposits was uniformly more or less congested. The same remark applies to M. Louis' cases. The existence of such a state has been very justly considered as a proof of the recent invasion of the disease; as this lesion is seldom present, at least in a very marked degree, in cases of old chronic phthisis.

In three of M. Louis' cases, there were numerous interpleural adhesions.

This excellent pathologist has made a very just remark, in his great work on phthisis, that the thickness and strength of these adhesions are almost always proportional to the gravity of the lesions in the substance of the lungs. Thus, when there are no adhesions, we may be almost certain that we shall not find any excavation within the lungs; when the adhesions are slight, the excavations, if there be any, are almost always small; but, when they are strong and extensive, the excavations are generally numerous, and some of them of considerable dimensions.

The preceding case, however, presents a well marked exception to the universality of this pathological law, so much insisted on by M. Louis, and which on the whole is, it must be admitted, quite true. It deserves, however, to be remarked, that in our case, the adhesions, although intimate and strong, were not produced by false membranes (il est vral que l'adherence etait, quoiqu' intime, privée de fausse membrane), but merely by an agglutination of the two opposed serous surfaces.

With respect to the condition of the other viscera in M. Louis' cases of acute phthisis, it is worthy of notice that the intestines were found healthy in all. The spleen, which was "passablement augmentée de volume" in our case, was somewhat enlarged and softened in two of his cases also.

Symptoms.—In all M. Louis' cases, the patients suffered from pain at some point of the thorax. Our patient too complained of pain and a sense of tightness from the first day of her "*alitement*."

Cough was present in all M. Louis' cases; but it differed much in point of intensity and frequently in the different cases. In our patient, the cough, which was most troublesome at about the middle of the disease, diminished so notable at last, that it was very inconsiderable during the eight or ten days preceding death.

The respiration is always very sensibly distressed in genuine acute phthisis. It is usually quickened from the very commencement of the attack, becoming more and more distressed as the disease advances. This is just as we might expect, judging from the post-mortem appearances. The congestion or '*engouement*' of the pulmonary tissue between the tuberculous deposits, must, as a matter of course, offer serious impediment to the free dilatation of the air-vesicles, and must therefore induce the necessity of more frequent efforts to draw in the breath. The frequency of respiration thus increases more and more as the disease advances; and, in its latter stage, it is so painfully urgent, that the poor patient is usually forced to sit up in bed night and day.

The character of the sputa does not afford much assistance in the discrimination of acute phthisis. They are rarely decidedly purulent; but are rather mucous, viscid, opaque, partially streaked with yellow and red lines.

The auscultatory phenomena, too, in this form of phthisis are much less satisfactory in the more chronic forms of the disease.

In one of M. Louis' cases, all that is said on this subject is merely that, the respiratory murmur was weak in the neighbourhood of one of the clavicles. On dissection, the disease was found not to have advanced further than the stage of granulation-deposit.

In another of the cases, a sonorous rale was heard at first over almost the whole extent of the chest; and latterly a crepitating noise also was perceptible. In the other cases, no mention is made of any distinct sound being audible, save that of an indistinct gurgling at one point, near the upper part of the chest.

M. d'Espine alludes to the peculiarity of the *expiratory bruit*,* as the most characteristic auscultatory phenomenon in his patient, and he expresses his opinion that, had M. Louis been better acquainted with the value of this sign when he reported his cases, he doubtless would have made especial mention of it. It has been only within the last 4 or 5 years that attention has been paid to it. We are mainly indebted for the valuable suggestion of its importance to Dr. Jackson of Boston.

With respect to the state of the pulse in acute phthisis, the observations of M. Louis quite accord with those we made in our patient's case. It increases in rapidity as the disease advances towards its final close. In one case it rose to 164; in our patient it did not exceed between 140 and 150.

The profuse perspirations, so invariable a sign of chronic phthisis, were not present in all the cases of the acute form related by M. Louis; neither did they exist, at least to a great extent, in ours. When they do exist, they are generally very limited and partial.

Lastly, with regard to the influence of therapeutic means on the progress of this most fatal malady, *acute phthisis*, we have, alas! only the melancholy part to proclaim the almost total inefficacy of medicine to afford even relief to its most distressing symptoms. There is, perhaps, scarcely any disease which more completely baffles all attempts to arrest or mitigate, far less to subdue, than the acute form of phthisis. The distress of breathing, and the suffering of the whole system, usually increase from worse to worse, in spite of the best directed measures; and the physician has only the melancholy task to watch the gradual aggravation of his patient's sufferings from day to day, without being able to assuage their severity.

In most other acute diseases our art may serve to palliate symptoms, either by depletion, or by derivative means, or lastly by anodynes and soporifics. Not so in cases of acute phthisis. The inward fire, so to speak, resists all attempts to smother or extinguish it. Certainly none of the remedies, which were employed by M. Chomel in the cases reported by M. Louis, seemed to have any decided effect in affording much relief. Detractions of blood served but to exhaust the vital power, without mitigating the dyspnœa and general distress of the system.

Blisters might relieve the local pain, but they seemed to increase the feverishness, thirst, and irritability.

In M. d'Espine's case the patient seemed to experience partial benefit from a mixture composed of a decoction of polygala senega, syrup of white poppies and tincture of jalap; but, alas! it was deceitful; neither the dyspnœa nor the rapidity of the pulse were at all abated; and even the cerebral symptoms remained as before.

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* Hitherto not much regard has been given by auscultators to the *expiratory murmur*, or *bruit*, the attention being altogether directed to that which attends the admission of the air into the chest. The suggestion therefore of M. d'Espine deserves notice; especially in all cases of ambiguity where the usual auscultatory phenomena are indistinct.

Before concluding our remarks on the history of acute phthisis, let us consider for a few moments its *etiology*.

The age, at which it is usually developed, is between the years of 18 and 22. It has indeed been observed at much later periods of life; but certainly it is much more common about the epoch we have now mentioned, than at any other.

With respect to the sex, as a predisposing cause, we have reason to believe that it is more frequent in young females than males.

What may be considered as rather surprising is, that, in most of the victims of this most destructive form of consumption, the constitution seemed to be, previously to the attack, rather strong and even robust, than very frail and delicate, such as we observe in most other phthisical patients.

It has also been observed that many of the cases of acute phthisis have occurred in subjects, in which the hereditary predisposition to consumption either was inconsiderable, or did not exist at all. M. d'Espine says of his patient, that neither her parents nor any of their other children had shewn any sign of the disease.

M. Louis has remarked in reference to his patients that none of them had suffered from any severe malady beforehand, and that in all of them the health had been generally good. But we should not trust too much to such an observation.

It is very probable that mental disquietude has often a very marked influence, if not on the development, certainly at least on the progress, of acute phthisis.

Disappointment, chagrin, blighted hopes, &c., have often served to awaken the dormant spark. which, when once inflamed, bursts forth with such rapidly destructive power. It is a singular, but well-ascertained fact, that the powers of the mind, and, often too, the higher and more amiable feelings of the soul, are very generally developed at an early period of life and with uncommon force and brilliancy in those, who fall the victims of consumption. Any violent excitement, whether it proceeds from joy or grief, disappointment or over-ardent expectation, from intense application or any long-continued effort of the mind, is frequently the more immediate cause of the fatal attack.—*Archives Generales.*

COMMENTARIES ON SOME OF THE APHORISMS OF HIPPOCRATES.

Section 1st.

M. Guerbois, one of the surgeons of La Charité Hospital in Paris, and member of the Royal Academy of Medicine, has recently published a French translation of many of the Aphorisms of Hippocrates, appending, to each, commentaries and critical remarks. We shall select a few of the most interesting and instructive.

1. A very low and scanty diet, continued for a length of time, is always to be avoided in protracted chronic diseases, and even in those that are acute, after the early symptoms are over.

This Aphorism is quite true; and its truth is duly appreciated by the experienced practitioner. In surgical cases more especially, such as severe accidents, wounds, &c., the low-diet system should not be preserved in beyond the first few days. Nature requires to be supported by mild and nourishing food and sometimes also by cordial stimulants, when she is called upon to repair any serious lesion. Much indeed depends upon the temperament and special constitution of the patient. The truly wise surgeon regulates his practice by a careful study of each case. Of many patients suffering from the same disease, one may be benefited by porter and animal food given daily, another by a lighter diet and wine, a third by the use of quinine or some vegetable aromatic bitter, a fourth by cordial antispasmodics, such as ammonia, valerian, camphor, and opium, &c. As a general remark, aged and very young persons require more nourishing and cordial regimen, when there is a copious suppuration for a length of time, than those in the more mature periods of life.

2. During the time of a paroxysm, remove all food: the same should be done in the exacerbations of diseases, whose attacks are periodic.

Although we do not so often observe the occurrence of regular exacerbations in surgical as in medical diseases, nevertheless, in such patients as are of a highly nervous and irritable constitution, we not unfrequently meet with exacerbations, which seem to be occasioned by the influence either of the atmosphere, of the particular locality, of mental emotions, or of the large assemblage and crowding together of patients in one hospital.

Attention to the diet, under such circumstances, is of first-rate importance; and the skilful surgeon will strive to counteract all of the difficulties, which may beset each individual case. M. Guerbois very justly adds; "but every attempt is sure to fail, if he does not make himself master of the imagination of his patient, and exercise a pleasing dominion over his mind." The importance of this conduct is well known to the military surgeon. All wounds are more troublesome of cure in defeated than in victorious troops, in officers than in private soldiers. Gloom, disappointment, and regret, will often cause and keep up a feverish irritability of the system, totally incompatible with the healing process.

3. The seasons of the year, and the medical constitutions of the atmosphere have a great influence on the prevalence, as well as on the curability, of certain diseases. In judging of the crisis of these diseases, we should attend not only to these circumstances, but also to the condition of the various excretions from the body.

Those individuals, whose constitutions are naturally weak or have been enfeebled from any cause, physical or mental, are peculiarly susceptible of the influences of the atmosphere and of the seasons

Each season has, as it were, its special morbific agency. Eruptive fevers are most prevalent in Spring; gastric disorders of all sorts in Summer; agues, &c. in Autumn; catarrhs, pleurisies, &c. in Winter.

Now almost all patients, labouring under surgical complaints, especially such as are attended with profuse suppuration, are more liable to be affected with these prevailing disorders than the sound and healthy are.

The pernicious influence of atmospheric influence on surgical patients is perhaps more distinctly traced in Autumn, than in any other season of the year. In military hospitals this remark is most conspicuously true.

The cause no doubt of this increase is, that the soldiers have probably been exposed during the Spring and Summer months to the hardships and privation of the campaign. Hence dysenteries, typhoid fevers, &c. are usually most frequent and destructive, in camp hospitals, from August to October. The free action of the skin, and the abundant perspiration from it, during the Summer, are probably the cause of the superior health of the soldiers at this time of the year. Doubtless, too, we should take into account the circumstance of the fruits and other vegetable productions not being yet ripe.

4. Evacuations should not be judged of by their quantity or extent, so much as by the effects which they produce and by the constitution of the patient.

There is much sound practical wisdom in this aphorism. After severe contusions of the head, thorax or abdomen, the very promptest and most active measures are necessary. The great object of the wise surgeon is to prevent the accession of inflammation; and, for this purpose, he employs at once very vigorous and decided measures. Large depletions of blood, and the continued and frequently-repeated use of antifebrile remedies are to be employed immediately.

Here, however, we must enter one *caveat*. When a surgeon is called to a case of severe contusion or other accident, soon after its occurrence, he should be on his guard not to have recourse at once to depleting or depressing means, if the system is still labouring under the shock of the injury. If the pulse be feeble and quick, if the surface is chilly, and the mental powers are bewildered, let him pause for an hour or two, or until Nature has recovered somewhat, and begins to exhibit signs of inordinate re-action. This precaution is especially necessary to be inculcated on the surgeon, in cases of injury of the head. Hitherto, it has been too much the practice with many medical men to whip their lancet out of their case, whenever they are called to a man who has been stunned by a fall or blow. This indiscriminate system of opening a vein is not only very foolish, but often very hurtful. The vital power may have been "abattus" by the violence; and, before we have recourse to depletion, it is surely but reasonable to allow Nature to recover herself somewhat.

The application of warmth to the feet and stomach, the administration of a spoonful of any light cordial, and the removal of bandages about the limbs and body, may be all that is necessary to be done for some time. True, there is no harm in merely opening a vein, if our object be to ascertain whether the circulation is going on or not; but then this may, in general at least, be discovered by the pulse at the wrist, or at all events by applying the ear over the heart. This simple expedient—the auscultation of the heart's action after all severe accidents—should never be omitted; it will afford us conclusive evidence how the great function of central circulation is going on.

The same remarks hold good in reference to severe contusions, and other injuries, of the abdominal viscera. Every surgeon knows that, in such cases, the liver or spleen is not unfrequently ruptured. Although such an accident is almost inevitably fatal, yet there is no doubt that death will be very much accelerated by bleeding or other depletory measures.

In all accidents occurring in females it is proper to ascertain, at first, the existence or not of pregnancy. In most cases of a severe nature, the fœtus will have been so much injured, that miscarriage is almost inevitable.

5. Frequent purging is to be avoided in acute diseases, even in their early stages.

This precept is more applicable to medical than surgical diseases. In reference to the latter, it is quite true.

Not only is the disturbance, caused by frequent evacuations of the bowels, very hurtful after wounds and other injuries, but the weakness also thus produced, and the derivative effects on the bowels, seriously interrupt Nature in her restorative efforts.

We should always remember that, after any severe injury, when there may follow copious and protracted suppuration, or when there may be an extensive destruction of parts, and consequently a large demand on the formative powers of the system, all large drainings of the fluids should be avoided.

English surgeons have erred much more in this particular, than the French.

If the object be to keep down any excess of action in the system, while at the same time the surgeon is anxious to husband, as far as possible, the strength of his patient, perhaps the best plan is to employ the tartar-emetic in small and frequently-repeated doses.

Section II.

6. In every disease in which the sleep is restless and uneasy, our prognosis must be unfavourable; on the contrary, when the sleep is calm and refreshing, we may augur well of the event.

This aphorism is applicable especially to wounds and injuries of the head.

In the case of a severe contusion or concussion, if the patient, when he recovers from the stunning effects of the injury (and these may have lasted from a few minutes to several hours or even days), be composed, his intellect clear, and his *physique* calm and temperate, the surgeon will be led to judge favourably of the issue. On the contrary, if the patient, after the cessation of the stupor, remains bewildered and wanders in his discourse; if he has forgotten his friends and other well-known objects; and if his sleep is hurried, uneasy, and labouring, we have reason to apprehend the existence of some serious lesion within the cranium.

Indeed in all cases of serious disease, medical as well as surgical, much very useful information may be derived from the character of the sleep. How different is the oppression and fitful stupor of sickness from the balmy placidity of health!*

Hippocrates has very justly remarked, that, when delirium and other such symptoms cease during sleep, we have reason to augur favourably of the case.

7. General weariness, coming on spontaneously, usually indicates the approach of some malady.

If a patient, who has sustained a severe wound or other injury, begins, a few days afterwards, to experience great lassitude, pains in all the limbs, tendency to shivering, anorexia, and sleeplessness, let the surgeon's attention be immediately directed to discover what is the cause of these symptoms, and whether any internal viscus is suffering. Even if he fails to detect such, he will do well to act on his guard; to remove all stimulating food, to administer diaphoretics, and perhaps also light laxatives, &c.

The insidious approach of visceral disease, after severe accidents or operations, is well known to every experienced surgeon. Hence the necessity of a most guarded prognosis in all such cases. The surgeon should, for his own sake, act as if he were to be cross-examined afterwards by a troublesome barrister—so unreasonable often is the arguing and expectation of relatives.

8. If a convalescent does not gain strength in proportion to the quantity of nourishment which he takes, it is a sign that he eats too much.

When a patient, who for some time has been put upon a full nutritious diet, does not gain either flesh or strength, we have reason to suspect that there is some internal complication, which has hitherto escaped notice. Most frequently perhaps it will be found, that the digestion is imperfectly performed, and that the food therefore is not converted into proper chyle. The alimentary canal may be in a state of atony and weakness.

At other times, there may be a disguised inflammation at some one point or another.

These two states require, as a matter of course, very different modes of treatment. The judicious use of light vegetable tonics, with the addition of small doses of the volatile alkali, will be found of speedy utility in the former case; whereas the latter demands the employment of small topical bleedings, and perhaps also mercurial alteratives, &c

It is quite impossible to point out all the sources of feverish irritation, which may arise during the progress of a severe injury. The brain, the lungs, the heart, the kidneys, &c.—one or more of them together—may become slightly affected, and ultimately very seriously diseased.

Now, if a full diet and a stimulating regimen be persisted in, while the germs of inward disease are developing themselves, the mischief will inevitably be more and more aggravated; and thus a case, which under judicious management might have been carried to a successful termination may speedily be rendered desperate. More lives are lost by *over*-feeding than by *under*-feeding patients, who have suffered severe injuries.

We may be quite assured that, if the food, which is taken, does not contribute to the nourishment of the body, it must, as a matter of course, be a source of irritation, by remaining crude and undigested in the bowels. In all cases of disease of the bones, cartilages, and other deep parts, the lightest and least irritating food is the best. How often under such circumstances is there a tendency to diarrhœa and irritation of the bowels?

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* We have made one or two passing remarks on sleep, as a means of diagnosis in certain diseases of children, in a preceding article—that on Encephalic irritation.—(*Rev.*)

Such a state must necessarily be aggravated by injudicious food taken into the stomach.

9. The night, which precedes the crisis of a disease, is usually very restless and uneasy.

When a wound is very large, as after an amputation of a large member, it has been frequently remarked that the fifth or sixth night following is marked by an extreme agitation, and often too by the accession of violent pyrexial symptoms. The process of suppuration is often ushered in in this matter, and may therefore be regarded in some manner as a *crisis*. Certain it is, that when once it is fairly established, and provided it is, and continues to be, of a healthy laudable nature, the act of reparation and healing goes on quickly and steadily,

The effort, which Nature has been making for several days, is now brought to a *crisis*, and the system seems to be tranquillized in consequence.

10. Predictions are not absolutely certain in any acute disease, either as favourable or unfavourable.

In the remarks on Aphorism 8, we have already alluded to the necessity of extreme caution in pronouncing an opinion as to the result of a severe wound or other injury. The simplest accident, at certain times and in certain constitutions, will not unfrequently terminate fatally. Acting on this principle, our forefathers used very justly to say, that "there were NO TRIFLING wounds of the head, or of the thorax, or of the abdomen." How often does erysipelas supervene on an inconsiderable wound of the scalp, and cause the most extensive, and not unfrequently fatal, mischief! At other times, a blow on the head—which, severe at the time, may have been thought nothing of—will induce a slow and disguised inflammation of the membranes or of the substance of the brain, thus laying the foundation of that incurable disease, *ramollisement*.

Penetrating wounds of the chest and abdomen are, in a similar manner, often followed by most unexpected accidents. Even in the case of the limbs, an inconsiderable wound may be soon complicated with the most alarming symptoms; such as spasms and tetanus. It is, however, unnecessary to dwell longer on this subject.

The cautious practitioner will never allow himself to talk too lightly of any injury or malady. Independently of the considerations, which we have alleged above, there is another which deserves to be noticed. It was thus aptly put by a young friend, when alluding to a celebrated surgeon, who was supposed to pay little attention to the common run of cases in practice, and devoted himself chiefly to the study of the more serious and complicated diseases. "Mr. —— may think my case a very trifling one, but *I think* it a very serious one." The young practitioner may draw a very useful hint from this passing remark. Nothing so offends a patient as his medical attendant appearing to *think little* of what he himself deems very important.

11. It is less dangerous when fever succeeds to convulsions, than when convulsions succeed to fever.

For the first five or six days after the receipt of a severe wound, nervous symptoms, such as startings, and even convulsions, are not unfrequent. These are always to be deemed rather unfavourable signs: often, however, they cease when a febrile paroxysm supervenes, and do not again return; the process of healing now going on regularly and progressively well. In other cases, on the contrary, feverish symptoms set in soon after the injury, and are quickly followed by spasms, delirium, &c. Such cases almost invariably prove fatal. Not more than one case in a hundred of traumatic tetanus recovers.—*La Chirurgie d'Hippocrate, extraite de ses Aphorismes*, *Paris*, 1837.

[We shall probably continue our notice of this work in our next number. *Rev.*]

MISCELLANIES.

THE following report arrrived too late in the quarter for insertion in the Clinical department. Yet we are so anxious to encourage the Reports of the physicians and surgeons of hospitals, that we willingly give insertion to the present in this place. We would observe to those gentlemen, who are anxious to publish Clinical Reports in this Journal, that the Reports must be in the hands of the editors by the middle of the current quarter. Suppose, for example, that a physician is anxious to have a report published on the 1st of January, 1838. He must transmit it to us by the 20th of November, 1837. Unless we receive the reports a month or six weeks prior to the day of publication, we are put to very great inconvenience.

SURGICAL REPORT OF SOME CASES IN THE COUNTY OF CLARE INFIRMARY.

By GEORGE W. O'BRIEN, M. D. &c.

CASE 1.—Retention of Urine, from Contraction of the Orifice of the Urethra, consequent on Ulceration of the Penis.

June 22, 1833.—Pat. Leonard, aged 28, contracted venereal about five years since; the ulceration carried away all the penis anterior to the scrotum. The orifice which remained has since been gradually closing, until it became not much larger than a pin-hole. About a year and a half ago he got retention of urine, from which he was relieved with much difficulty; and he was then directed to wear a short piece of a bougie, which he has latterly neglected. Since that period, the opening remained in a very contracted state, until the 20th of June, when it completely closed. When first seen, on the 22nd, he had not passed water for over 48 hours. He was then walking about the room nearly bent double, and in intense pain. He was covered by a cold clammy perspiration, which exhaled a strong urinous odour. His bladder was so distended, that it reached to the umbilicus. The orifice of the urethra could not be discerned, but a slight swelling appeared, just in front of the scrotum, communicating an obscure fluctuation to the finger.

A lancet was plunged into the tumor at the place where a cicatrix appeared, and where it was passed in for about an inch, the urine gushed out An elastic gum catheter was then passed into the bladder, and about two quarts of urine, loaded with mucus, came away. The instrument was fixed in the urethra.

23rd. The catheter slipped out of the bladder last night. He was free from pain, but was obliged to make an effort to empty the bladder constantly, which he found much difficulty in doing. The instrument was replaced by a female gum catheter, which could be more easily fastened, owing to the shortness of the canal.

After a few days, he was able to dispense with the catheter, having recovered the power of emptying the bladder. A short piece of bougie was fixed in the orifice, and by gradually increasing its size, the opening was sufficiently dilated to prevent any inconvenience. It has not since contracted, nor has he found any difficulty in passing water.

Gradual contraction of the orifice of the urethra is a very unpleasant result of ulceration involving the corpus spongiosum—and a tendency to it, appears to prevail to a very remote period after the ulcer has healed. It rarely, I believe, proceeds to such an extent as completely to close the orifice, and require an incision for its relief.

CASE 2 —Compound Fracture of the Elbow, with Laceration of the Brachial Artery and Median Nerve.

Daniel M'Mahon, aged 43, a healthy countryman, admitted on the 24th of April, 1833.

On the evening before, whilst driving a car, it was upset, and fell on his left arm.

There is a contused and lacerated wound, about six inches long, in front of the elbow, extending from the inner condyle downwards to the outer side of the fore-arm. The radius and ulna are fractured near their upper extremities, and protruded through the skin to a considerable extent. The former is also separated from its connexion with the humerus.

All the muscles about the front and sides of the joint are severely contused and lacerated, and many of them hang outside the skin—they are of a very dark colour. The brachial artery and median nerve lie at the bottom of the wound, torn across, but the former had been secured with a ligature, immediately after the accident. The hand is in a state of extreme pronation; it is cold and quite insensible—it as well as the forearm are beginning to assume a livid hue. No pulsation can be felt at the wrist. There is a slight redness round the edges of the wounds—he lost a great deal of blood before assistance could be procured—he suffers intense pain. There are two smaller lacerations at the back of the elbow. Immediate amputation was proposed to him, but he refused to consent.

In about six hours afterwards, the pain having become almost insupportable, he agreed to its removal. Amputation was accordingly performed at the middle of the arm. During its performance considerable embarrassment was occasioned by his irresolution and restlessness. Three arteries required to be secured with ligatures.

He got a large opiate draught when removed to bed.

With the exception of severe night perspirations, which yielded quickly to the use of dilute sulphuric acid, no untoward circumstance afterwards occurred. The stump was completely healed in five weeks.

Injury of the principal vessels and nerves of a limb, complicated with fracture, is always one of the cases in which immediate amputation becomes necessary; the circulation and nervous influence being so impaired as to render gangrene of the parts below the injury an inevitable consequence. Even when the bone is uninjured, and the soft parts, including the artery and nerve, are the only textures which have suffered, the same result follows. An instance of this happened in the Infirmary, last year, where the brachial artery, its accompanying veins, and the median nerve, having been torn across, the bones being uninjured, gangrene seized on all the limb below the wound, and amptation became necessary.

CASE 3.—*Fatal Injury of the Leg.*

James Kerin, aged 20—a healthy countryman, brought into hospital at six o'clock on the evening of the 3rd of November, 1834.

About half an hour previously, whilst sitting on the side of a common car, had his right leg severely crushed between it and another, which was coming towards him at a rapid rate.

He is very pale, and cold; he suffers intense agony. Pulse 136, very small. There is an extensive wound at the upper and outer part of the leg, with great laceration of the subjacent parts. The tibialis anticus and peronei muscles are torn from their origins, and protruding. The upper end of the fibula is dislocated from its connexion to the tibia, and for four or five inches downwards is broken into several fragments. On introducing the finger into the wound, it passes readily backwards into the popliteal space, in which there is a large cavity, but no external wound. There is scarcely any hæmorrhage now, though there appears to have been a good deal before his arrival at the hospital. The wound was filled with dry lint, which was retained by adhesive straps, and covered with a roller, not tightly applied. A tourniquet was placed loosely round the thigh. He got 40 drops of laudanum and a drachm of compound spirit of ammonia. The latter ordered to be repeated in two hours, if the skin has not got warm.

12, p. m. Skin still universally cold. No appearance of reaction—a slight oozing of blood from the wound, which ceased on tightening the tourniquet.

To have a glass of warm wine and water every second hour.

Nov. 4th, 9 o'clock—No hæmorrhage since—pulse 150, thread-like. No return of heat to the surface—features contracted, and assuming a cadaverous aspect.

The wine and other stimulants were continued, but were quite unavailing. He died at two o'clock P. M.

Dissection of the limb twenty hours after death.—On making an incision into the ham, a large quantity of blood and air escaped. There is much extravasation amongst the adjacent muscles. The sciatic nerve, popliteal artery and vein are not injured; the muscles are torn from their origins, the anterior tibial artery is torn across. The upper part of the fibula having been dislocated, and comminuted, had evidently been driven with much force into the popliteal space.

Case 4. — *Gun-shot Wound of the Popliteal Artery.* Mary Donahoe, æt. 20, admitted on the 27th of December, 1834, at two o'clock P. M.

About 8 in the morning, received a wound by the accidental discharge of a gun loaded with shot—she was about ten yards from the muzzle of the piece when the shot was fired. The left thigh, about an inch and a half above the knee, was struck by the shot. About a hand's-breadth of the integuments at the inner part was perforated by shot-holes, the parts adjoining which, are discoloured from effusion of blood under the skin, and much contused. On attempting to stir the limb, crepitus could be felt, evidently produced by an extensively comminuted fracture of the thigh-bone. She was in a state of extreme collapse, her skin was universally cold, her face pale and her lips blanched—her pulse was quick and scarcely perceptible. She lost a large quantity of blood on her way into town, and there was still a good deal of it oozing through the shot-holes. There were also some grains lodged in the right thigh, but they lay immediately under the integuments. A tourniquet was put round the upper part of the thigh; a compress of lint applied to the wound and secured with a bandage, and she got a draught containing 30 drops of tincture of opium with a drachm of compound spirit of ammonia—warm applications to be kept constantly to her feet.

At three o'clock there was only a very slight discharge of blood from the wound. She was still cold, and her pulse extremely rapid. To get a mixture of warm wine with water and carbonate of ammonia for common drink. At five o'clock, some heat appeared to return to the surface. but her pulse remains the same—very little bleeding since; eight o'clock the appearance of re-action had not continued—pulse imperceptible — bleeding completely ceased—the injured limb quite cold; 11 P. M. died without a struggle—had been talking a few minutes before she expired.

Dissection of the Limb. The whole surface of the body was unusually pale and bloodless. On cutting into the wounded thigh, the whole muscles and cellular tissue were found infiltrated with blood. The bone was fractured about two inches above the condyles; the fractured ends were very much shattered and fissured upwards and downwards to a considerable extent. The knee-joint was uninjured; the popliteal artery and vein were wounded, and several grains of shot were driven far into the bone.

Case 5. — *Wound of the Pharynx between the Os Hyoides and Thyroid Cartilage.* Matthew Nihill, aged 40, admitted at 11 o'clock on the morning of the 12th of February, 1835, having, about three hours previously, whilst in a state of mental depression, attempted to commit suicide by cutting his throat with a razor.

The wound extends transversely from the edge of the sterno-mastoid muscle on the right side to that of the left, dividing some of the anterior fibres of the latter.

He appears to have made two incisions, one passing between the os hyoides and thyroid cartilages, and the other detaching about an eighth of an inch of the upper part of the latter from the rest of its body—the separated portion hangs nearly loose in the wound. There is a considerable retraction of the edges of the wound, where the chin is raised. The incision has been carried to a considerable depth, and the pharynx and opening in the larynx are completely open to view; the epiglottis is uninjured, the incision having been made below its root. The left superior thyroid artery is cut across and bleeds profusely; the left carotid is laid bare to a considerable extent, and can be seen pulsating at the left extremity of the wound. He has lost a great deal of blood and is very much exhausted; the pulse is imperceptible, and the surface cold and bloodless, but he is calm, and regrets the occurrence very much. He experiences much difficulty in articulating, but his voice is not rendered unintelligible. The hæmorrhage was completely arrested, by tying the thyroid artery. It was not deemed adviseable to employ sutures, as it would have been exceedingly difficult if not quite impossible to bring the cut edges of the wound together, on account of the manner in which the thyroid cartilage was wounded, besides the risk of the inflammation which would have been created by the ligatures, and the certainty of their being torn away by coughing or swallowing.

Some dry lint was gently laid into the wound, and an attempt was made to bring the edges as nearly in contact as possible, by having the head bent forward—he then got 30 drops of laudanum.

In the evening he was composed and quiet, and his breathing regular and easy—pulse 120, weak and intermitting.

13th.—Pulse 100, full and regular, breathing unembarrassed, countenance composed. Some milk and water was conveyed into his stomach by means of an elastic tube. Enema purgans.

14th. — Pulse 90, full, respiration natural, but there is a slight cough. The wound looks clean and well. Bowels free. Rept. enema.

18th.—The cough has completely ceased. Pulse 101, soft. Several detached pieces of the cartilage have come away. A purulent discharge is beginning to appear, and granulations are springing up all over the wound. Bowels regular, tongue clean. He is fed by means of the elastic tube.

22nd.—The wound has diminished a third, he can now swallow some soft bread with ease—to have broth. The exposed mucous membrane is not redder than natural.

27th.—Wound still contracting very much, he can now swallow almost any thing. Granulations looking healthy. Pulse natural. No cough. Appetite good.

On the 26th of April he was discharged from hospital, an opening about the size of a goose-quill remaining, his power of articulation and deglutition perfect.

The opening completely closed in about a month.

CASE 6. — *Poisoning by Sulphuric Acid.* J. Hall, 5 weeks old, admitted at eight o'clock on the evening of the 27th of December, 1834.

The woman who brought the child stated, that a few minutes previously, she detected its mother in the act of giving it vitriol mixed with panada, and the child had swallowed a good deal of it before she suspected what was doing. She immediately snatched the child from her and ran to the Infirmary.

The little creature was severely convulsed and writhed with agony immediately after swallowing it. When brought to the hospital it lay still and was insensible, and appeared at first to be dead.

The ordinary tube of a stomach-pump being much too large to pass, a gum-elastic catheter of a large size, was introduced into the stomach and fixed to a syringe. A lather of soap and tepid water was then injected and withdrawn repeatedly, and some pure water was then passed into the stomach until it returned quite free from acid. The child began to revive immediately, and in about five minutes after the instrument was withdrawn, commenced sucking the woman's breast.

On inspecting the inside of the mouth it as well as the dorsum of the tongue were found to be much excoriated. To get some carbonate of magnesia suspended in water immediately.

Some of the panada, which was kept by the woman, was then washed with distilled water, and the solution threw down a copious precipitate from muriate of barytes.

30.—The child was griped occasionally during the night, but is much easier since morning. Its bowels have been moved several times. Mouth and tongue very sore. Ol. Ricini ʒss.

31st.—Has had but little pain since, bowels moved several times.

January 3d, 1835.—Discharged, perfectly well.

Dr. Dickson and Dr. Johnson.

Most of our readers have read the correspondence in the Lancet between these two gentlemen. Dr. Dickson appears to have taken mortal umbrage at an expression used by the Reviewer of his work in this Journal, where he merely asks the question if Dr. D. never *depletes* the pockets of his patients, seeing that the Doctor asserts that he never *depletes* at all. Any person of common good humuor would have considered this as a mere joke; but Dr. Dickson seems to consider this insinuation as synonymous with the grave charge of being a PICK-POCKET. Now this could never have been intended by the Reviewer. Dr. D. boasts of having had *eight thousand private patients under his care in less than three years*; and allowing that he only received, on a moderate average, three fees from each patient, the worthy Doctor must have *pocketed* more than 24,000 pounds sterling in the short space of time above mentioned!! This was a species of depletion which few physicians would be ashamed of—or unwilling to practise. Not so Dr. D. He singles out Dr. Johnson, without any evidence of his being the Reviewer, and loads him with abuse of all kinds—for all which Dr. Johnson freely forgives him. There was one charge, however, in Dr. Dickson's first letter in the Lancet, which Dr. J. could not treat with silence, becaused it involved an imputation of unprofessional conduct, namely, that of taking fees from his medical brethren for his professional advice. Dr. D. publicly asserted that he possessed *proofs* of this misconduct in Dr. J. and Dr. Johnson denied the truth of the charge, and challenged Dr. Dickson to adduce his *proofs*. What did Dr. Dickson then do?

> "Eager to wound, but still afraid to strike,"

he merely asks a question. Did Dr. J. or did he not, take some half-guinea fees from a Surgeon Gibbon?—modest assurance! It was as much as to say—"Pray my dear Doctor Johnson, just come forward with proofs of your own culpability, and it will save me a great deal of trouble." But Dr. J. was too old a sinner to make open confession before this impartial tribunal, and flatly denied the charge. The third attack was a brutum fulmen—a volley of general abuse—but a total abandonment of the accusation against Dr. Johnson, although he, (Dr. D.) set out with the astounding asseveration that he had the proofs in his own hands!! In this humiliating situation, Dr. Johnson disdains to retort upon his adversary, though he has now the power and the opportunity to do so with effect. Dr. Johnson will only offer one piece of advice to Dr. Dickson—never again to make a charge of unprofessional conduct against any of his brethren, when he knows that he has not even the shadow of proof to substantiate it. In this attempt to affix a stigma on Dr. Johnson, he has affixed it on himself.

The following note from Dr. Stewart, of Portsmouth, will dispose of Dr. Dickson's interrogatory respecting "SURGEON GIBBON."

"Portsmouth, 13th Nov. 1837.

"Sir,—In the early part of 1835, I was requested to visit a gentleman just landed from an Indiaman, and who had taken up his abode at the Star and Garter Hotel in this town. On my arrival I was informed that it was a Dr.

Gibbon. I found him labouring under disease of the liver and general dropsy. After three or four days attendance, he was so far improved as to be able to proceed to London, which he was very anxious to reach, in order that he might consult his old friend, Dr. James Johnson, who had attended him during his previous visit to England. On his departure, he wished to remunerate me for my attendance, but declined. His reply was—"*then you are as liberal as my good friend Dr. Johnson, who never would take any reward from me for his advice.*" You are at liberty to make what use you please of this communication.

Yours truly,

To Dr. James Johnson. JAMES STEWART, M. D.

P. S.—Dr. Johnson has received nearly fifty letters from medical gentlemen, rebutting the accusation of Dr. Dickson, respecting fees from medical practitioners, and he takes this opportunity of thanking them all collectively for their kindness. It is obvious that, as only one instance was ventured upon by Dr. D. and that specific instance disposed of by Dr. Stewart's letter, it would be unnecessary to produce other documents bearing on the subject.

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APPENDIX.

Westminster Hospital.

On a peculiar and undescribed Injury of the Shoulder, being the Substance of a Clinical Lecture delivered December 2, by Mr. Guthrie.

I have promised for the last two months to describe to you the nature of this accident, as far as circumstances would permit; but have not been able to obtain the attendance of the individual to whom it happened until this day, and it is of little use describing these things unless you can at the time test the value of the description.

J. Cadman, who is now seated before you, is a plasterer by trade, and when commencing his daily work felt the ladder turn on which he stood, and after some effort to save himself, he fell with it, his left elbow striking the ground, whilst his shoulder rested against one of the steps of the ladder, in a way he cannot distinctly explain. He felt he had sustained a severe injury in the shoulder, and the elbow was much grazed. He was brought immediately to the hospital; but there was so much swelling that the house-surgeon, Mr. Dasent, could not make out the nature of the injury, and sent to me. I saw him about three hours after the accident; and the most remarkable and striking appearance was a fold or pucker of the skin, the size of the half of half-a-crown, situated over the middle of the pectoral muscle, where it forms the anterior fold of the arm-pit. A hard substance could be felt below this, and extending above it towards the coracoid process, which could not be distinguished on account of the swelling, and it had been supposed that this hard substance was the coracoid process broken off. The head of the humerus could be very distinctly felt on the outer part of the glenoid cavity, or something like it. The arm was very moveable in every direction, and the elbow could be brought close to the side, and made to strike the ribs without difficulty. I decided that it was a fracture, and not a dislocation; but the nature of the fracture I did not understand, and hoped it would become apparent when the swelling had gone down. The fore-arm was bent, the arm brought close to the side on a splint, and leeches and cold lotions were applied and repeated until the swelling very slowly subsided. I was now satisfied that the humerus had been broken at its anatomical neck, and forced through the pectoral muscle, the fascia covering which and the skin had offered sufficient resistance to prevent its passing through them, and forming a compound fracture; causing the bone, however, to pass upwards, and puckering the skin by carrying it along with it. The arm was shorter, and the retraction of the pectoralis major, and probably of the subscapularis, had drawn the bone more into the situation the head of the humerus usually occupies when dislocated under the pectoral muscle. The shape of the broken end of the bone was satisfactory as to its being a broken bone; but I was not at all pleased with its situation, and as no common ordinary extension moved it downwards, I caused him to be largely bled, and gave him tartar emetic at different doses to 12 grains during an hour and a quarter, that I placed him under a gentle but gradually increasing extension in the pullies. I found I could bring the bone down to its natural situation as to length, but I could not make it remain in its proper place. There was, therefore, nothing to be done but to allow Nature to work for herself; and she has certainly worked wonders, for at this moment Cadman suffers from one inconvenience only, and that is that he cannot touch the ceiling with the hand of the injured side, at the same distance that he can with the other; he is obliged to be five or six inches nearer to it, from the arm making a greater angle with the head, than on the sound side. In all other respects, he can do his work just as well as before. When he sits on a chair, as he now does, with the fore-arm bent resting on the thigh, the hand supine, the prominence of the broken bone is very remarkable, and on placing a dry bone by the side of it, it appears to correspond to the small tubercle on the inside, and to a part of the great tubercle or tuberosity on the outside. The hollow between seems to be that for the passage of the long head of the biceps; but whether this tendon runs in it I cannot ascertain. The tendon of the subscapularis appears to be attached to the inner and back part of the small tuberosity, and to have drawn it inwards, whilst that of the pectoralis major, which is well defined, has drawn it inwards and forwards. The portion of the head of the bone, or the whole perhaps of the cartilaginous surface, remains attached in situ with a part of the great tuberosity; but how far, or how much of the three muscles inserted into this process remain with it and the head, I cannot ascertain. I should think but little of the teres minor. The arm moves with perfect ease in every direction; when it is rotated outwards and backwards, the broken end of the humerus seems as if it were going to come through the skin, it is so prominent, and when the arm is raised as high as it can be done, the prominence of bone is seen above the shoulder, as it then rides as high as the clavicle. I have offered him £50, which he may leave by will, for the dissection of his arm, if he dies before me; or my son will give it to his heirs, if he survives me, as I should like the accident to be fully understood. I have mentioned it to my colleagues of the Court of Examiners, but it is not known to any of them. Sir A. Cooper has sent me the 21st plate of the last edition of his work on fractures and dislocations; but this only shews a fracture of the anatomical neck, with little separation, and that outwardly. Mr. White thinks he has seen a case somewhat like it, from there having been the same sort of pucker in the skin in front; and Mr. Cusack, of Dublin, thinks he has met with one of the same kind, from having also seen the same pucker. Both these cases did well, but with unseemly shoulders. I am of opinion that the elbow came first to the ground, but that the step of the ladder struck almost simultaneously against the head, or rather across the neck of the bone, and that the effect of the first blow, which would have caused a dislocation, was thus modified, and gave rise to a fracture. It is not, after all, of any consequence to know how the thing happened; but it is of importance to know that if nothing is done, Nature will right herself so as to recover the use of the arm. Surgery is not, however, satisfied with this: and my object in a future case of the kind, now that I think I understand it, would be to prevent the deformity, which in a woman's arm would be considerable, although much less than I expected; for the pucker has disappeared, and the humerus under use has resumed so much of its natural direction, that I should never have thought of extension by the pullies if it had always been the same. The pointed ends of the fracture will yet round off, and form a small round extremity of bone, and a kind of false joint with the parts around. There is I presume some ligamentous union with the head of the humerus.

In a case of this kind, I should make extension until the bone resumed its proper place; but this must be done very carefully, for I am not sure it could be done effectively without tearing the skin of the pucker or fold I have described, certainly not without great risk of doing it, and which would render the accident a very dangerous one. If the bone could be brought into its proper place (of which, from this and other causes, I have some doubt), it is probable it would not be easily retained by padding the axilla, and other means which will at the time suggest themselves to you; and if it were, it is possible that bony union in such a situation might be more detrimental to the free use of the arm than the mode of cure which Nature has adopted. I am inclined to believe that the capsular ligament of the joint was not torn, nor extensively so; but this must be matter of conjecture.

Having thus drawn your attention to this case, I shall hope it will soon be thoroughly understood; and in order that no misunderstanding may take place on the subject, I shall write, and leave the observations I wish you to remember with the house-surgeon, and all that please may take a copy of them; and I shall adopt this course in future with any thing I may say which I think it useful for you to recollect, or to be able to refer to.

The poor blind deaf man, with half-a-dozen shot holes in his body, I now place before you, was once a gay and gallant soldier; he received these wounds on the heights of Rolica, on the 17th August, 1808; and I bring him forward as an instance of the British surgery of the day, in contradistinction to what often followed, and as a proof of that which ought to form our rule of practice for the future, in the inquiries I am this day going to notice, viz. those of the arm from musket shot.

When I revised and completed my work on gun-shot wounds in the Winter of 1814, I had the support of all the junior medical officers of the Peninsular army, the approbation of all the seniors under whom I had served, except the Army Medical Board (I was too young for them), and the esteem and recommendation of most of my equals. I did not like to say I had seen more than many of them; I had no desire to say so: I was more willing and more happy to divide any credit which might be awarded with my brethren, and to take the responsibility of defending what was objected to on myself, than to withdraw from the strictures, and many of them were sharp ones, which were made in the surgery of the campaign of Waterloo, by saying that it was not the same with the surgery of the Peninsula. You will naturally ask me why it was not? and the answer is a very simple one: that they were not the same people, or when they were the same, the ablest had marched with the army to Paris, or were solely engaged with the wounded officers. The hospitals were principally in charge of others who had served but little on the field of battle, and it was the wounded under their care that were open to remark. One instance will suffice to explain my meaning. After the last battle in the Peninsula, no one on the third day could have found a gun-shot fracture of the thigh in the bent position on the side; after the battle of Waterloo no person could have found one in any other. Here is what was a thigh-bone at the battle of Albuhera: the man died at Elvas, and it looks something like a ram's horn. He lay on his back, and the thigh on its side. And when this is the case, the thigh is always crooked, and the man generally dies. Twenty-two years have passed away since the battle of Waterloo; I have no surgical contemporaries of my own standing in London, and I may now tell you the truth without the fear of giving offence, or of appearing egotistical. You will again ask me perhaps how it was possible that in one short year an error of this kind could have been committed? and why many surgeons preferred serving at hospital stations to the field of battle? and I will have the pleasure of telling you for the benefit of those who may be aspirants for military medical honors.

The first appointment a young man receives at 22 years of age, is, that of an hospital assistant, in which situation on service he is worse treated than any costermonger's donkey in Westminster or Shoreditch; for the donkey is occasionally fed, cleaned, and lodged, but the doctor, if he wishes any of these conveniences of life, must find them for himself wherever he can catch them, and that is not always so easy for a man to do, who has no money in his pockets.

Suppose him, if you please, at Portsmouth, waiting for a fair wind, and spending at the Crown or the Blue Posts the last pound which remains of his two months' pay in advance, which have been very improvidently given him; or land him, if you please, at Lisbon or at St. Andero, with five pounds in his purse, a foretaste of his prudence. He presents himself to the inspector of hospitals, who very politely informs him that he must march to join the Army in three days, and advises him to buy a mule to carry him and his luggage, and to hire a servant, for whom five shillings a week will be paid at a future time. He then furnishes him with an order on the quarter-master-general's office for a route and on the commissary for his rations.

The Quarter-master General very gravely gives him a route, and the Commissary-General very agreeably provides him, on his receipt, with as much meat, bread and wine, as ought to last him three days on the road, and adds very graciously so much wood to cook the meat; but which it may be supposed the young doctor very obligingly leaves behind him for the next gentleman in a similar situation, and who may be equally unable to carry it. Having no money to buy a mule or a jackass, he sends his trunks to the Stores, where they are soon very cleverly plundered of every thing valuable, and starts with a small sack on his back, containing a clean shirt, and a new pair of shoes. If he should have a little money in his pocket, he ventures to hire some lad who offers himself at the corner of the street, or who is recommended by some person about the house where he lodges, and who, in all probability, very civilly and quietly walks off on the night of the second or third day's march, with the sack and every thing else he can lay his hands upon. If my friend has had the good fortune to attract the attention of the inspector, he will perhaps direct that he be attached to a party of bullock cars or mules going up to the Army with stores, and if this should happen, he will have a chance of saving his baggage and of getting something to eat, but bullock cars travel only two miles an hour on level ground, one on a bad road, and oftentimes wait for an hour to take breath, so that having ten or twelve miles to travel, he is out for twelve or fourteen hours under a burning sun, or in a heavy rain. If he escaps after ten or twenty days of this work, it is only on his arrival at his station to set off back again on a similar travel, or to take charge of a large number of sick, and share the dangers of a crowded hospital. The cemetry called English, at Ciudad Rodrigo, contains all that remains of twenty or thirty-one of these gentlemen, the victims of distress and disease. I remember one of these young men at Puebla de la Calcada, a village on the plain of the Guadiana, not far from Merida, who had just come up from Lisbon; the village was full of troops, and as the rank of a hospital mate is the lowest of commissioned officers, his lodgings were none of the best, his bed being on the ground-floor, at an equal distance between the peasant and his wife, and an old sow and a dozen of pigs that had grown up to the size of young porkers able to provide for themselves. From these he was separated by a partition having a door-way, opposite the street entrance, the lower third of which was blocked up by a board, in order to prevent the pigs walking into the room at pleasure. The doctor finding his position in the night rather hot, being in the month of September, shifted his paliass between the doors for the benefit of the air, which came in under the street door. The peasant, who rose at the dawn of day, woke him, and having opened the front door, made signs to him to rise. The doctor was indignant at being thus disturbed out of a sound sleep, and signified that he would not get up. The peasant in his turn was more vociferous and urgent with tongue and signs that he should shift his position; he looked, as the doctor afterwards said, like a talking sign-post. The matter was however soon adjusted, a horn was heard to sound, the peasant tore his hair in despair, out jumped the lady pig right on the back of the sleeper, and then sprung out of the door, followed by all her family, to join the swine-herd who was thus collecting them according to ancient custom, at the end of the village, for their day's pasture in the adjoining fields and on the bank of the river. The roaring of the doctor, and the cries of the peasant's wife, brought in some of the neighbours and soldiers who were also up, and the poor doctor, on being raised, was found to have suffered from only a few bruises. He was however a doomed man;

he was only about five feet four high, rather good-looking, but like many other people, had remarkably short thighs and legs. In the evening at sun-set, and the evenings in Autumn in Estremadura after a sultry day are delicious, he thought he would stand at the door, and catch the soft but cool breeze that is always felt at that hour. He was thinking of home, and what could have induced him to leave it, for it was just the hour at which he used to steal from the shop where he was apprenticed in Old Gravel Lane, and take a quiet walk down to the bank of the Thames, to enjoy the evening breeze, and study the muscles on the naked men, who appeared like so many demons emptying coals out of the colliers into the coal-barges. His eyes rested on the fine blue sky, so common in Spain, and so rarely seen in this climate, and he almost thought he yet could be happy for a few months in it. At this moment again he heard the sound of the swine-herd horn; it reminded him of the irruption of the morning, and having most emphatically, with a long-drawn sigh, damned those pigs, he continued to meditate and to admire until his attention was drawn to sublunary things by a noise which was, alas! too late. On looking down he saw the old lady pig, followed by all her family, coming right at him, full tilt, accompanied by all the neighbouring pigs who lived beyond him. In an instant she was between his legs. Only conceive my little doctor, with an old sow near six feet long by two feet wide, in such a position—his fate was as inevitable as your's would be in a similar situation;—over he went, bumped his nose against her tail, and rolled covered with blood under the rest of the family, who bolted over him into the stye. He was not aware, poor fellow, that the swine-herd dismissed his flock by sound of horn as well as collected them, and every pig knows that his master or mistress had prepared for him a trough well filled with peas, of which the first comer had the best share. The pigs, on their arrival at the end of the village, awaited most patiently the swine-herd's will; but the moment the first sound of the horn was drawn, every pig took to his heels, and woe to any one who stood in their way. The proximity of their dormitories to their masters and mistresses rendered them perfectly well acquainted; and on their way home, if they met their mistresses, who generally attended to their food, they would jump upon them like so many puppy-dogs. When they got home, if the door was not open, the first arrival jumped up and pulled the string of the latch, and let himself and the rest in; there being no locks nor keys in that primitive country.

Circumstances and accidents, such as I have related, rendered it very difficult however to procure good qualified surgeons for the army, and a curious expedient was resorted to in consequence. Political economists say, that when the demand for tea, coffee, sugar, cotton, &c. &c. is greater than the supply, the price will increase, and that human labour ought to be regulated by the same rule; the authorities in England thought however otherwise, and instead of increasing the price, or smoothing away the difficulties, they deteriorated the article, and as surgeons could not be found qualified to kill or cure by commission, they thought it right to take those of an inferior description, and give them only a warrant, as they do to boatswains and gunners on board-ship. I do not know whether this bright idea originated with the Government or the army Medical Board; but when elicited, it seemed to please all parties, and a certain number of gentlemen thus warranted to do business came out to Spain. I had some of them at San Andero, where I was for a couple of months. One poor fellow having called to report his arrival, I desired him to sign a paper descriptive of qualifications. This I found he could scarcely do, the letters very much resembling pot-hooks; which he attributed to sea-sickness, in which I sympathized with him, my own stomach being easily unshipped by a very moderate view of blue salt water. I therefore sent him to live at one of the fever-hospitals, to do duty for a few days, until I might see what he was made of. Two days after going to this hospital at six in the morning, I found him in a little alarm. A soldier had been brought to him, he being the officer on duty for the night, riotously drunk; and in order to keep him quiet, he had him tied hand and foot to the four corners of the first bedstead he could meet with, and having thus got the man on his back, recollected he was warranted to do something in physic, he therefore gave him a good dose of tartar-emetic, believing his stomach ought to be emptied; but never thinking, or not knowing that a man could not advantageously vomit on his back, he was found suffocated two or three hours afterwards. It met my friend some three months after this in charge of 40 men and officers at Renteria, going to Passages ill with fever, of which disease he knew nothing, he assured me he had been more fortunate than when with me. He had been sent in charge of sick to several places; on the present occasion he had lost but two; on a former, at Pampeluna three, at Vittoria five; that he hoped to do better in time, and I have little doubt, that if his exploits had been as duly recorded as those of Don Juan, he might have boasted by the end of the campaign of "*tres cientos in Hispanha.*"

Perhaps, gentlemen, you may think those doctors who were higher in rank fared better. I will give you an example in a bit of my own history. Having nearly lost my life through fever, I was sent to England, and returned just at the time Marshall Massena broke up from before the lines and retreated. I bought a horse and a mule, hired a servant on the doubtful recommendation of being as good as any one I could get, and set off to follow the army to Coimbra. On the fourth day at Rio Mayor, the fellow finding I kept too sharp a watch to permit him to rob me of all I had, ran away with one of my two blankets and my dinner. I was now in a happy state, with a horse and a mule to clean, and nothing to eat. An assistant-surgeon, who happened to be traveling the same road, and had joined me the same day, which in all probability, prevented my losing my horse and mule, had a soldier-servant and his mule in the same stable with mine, and he kindly allowed him to see that they were not stolen. The country was desolate; dead horses, asses, and men lay about in all directions, and there was little to be obtained of any kind. My assistant-surgeon, whose name I very ungratefully forget, also presented me with a blanket he said he could spare. It was almost a fatal as gift as the shirt of Nessus. From that time I ceased to sleep, my flesh seemed to be creeping and crawling all night, I become spotted all over, and wondered what could be the matter with me. On arriving at Coimbra, I was sent to the house of a padre, the clergyman of the parish; like most of the padries in these countries, he came of a large family, at least in the female line, and had a very respectable number of nieces, one of whom was so good as to keep house for him. She was rather good looking, and about five and thirty years of age, which in Portugal constitutes a rather elderly lady. I spoke Portuguese tolerably well, and was very civil to boot, and they were both pleased to delight in me. I could tell them the news, and could understand their complaints against the French; and they gave me in return an excellent dinner and a very good bed in which I slept soundly for the first time for four or five days. On mentioning this in the morning to my kind hostess, she assured me by, a very significant motion of the thumbs, that she knew the cause of evil, and begged to have my little stock of bedding delivered over to her. On coming home from a morning perambulation of the town, she met me in an ecstasy of delight, assured me she had my blankets hanging in the sun all day, and that those fleas which had not hopped out, her servant had duly destroyed. She further assured me they were as long each as her nail. Now as ladies nails are as long in Portugal as they are in England, and sometimes longer, I demurred at this, and she insisted on my assisting her to find one, but there was not one to be discovered by our united researches, so I cannot vouch for their length; but from the appearance of a dead one afterwards produced, I think they may have been half as long.

In due time time I crossed the country, narrowly escaped being drowned in the

Guadiana at Jurumenha, and joined the fourth division of infantry near Olivenca. I arrived just after sunset, on the flank of the troops, without knowing more than one individual of the whole. The General commanding was a mile off, at a house I had no chance of finding; and, by one of the odd arrangements of the service, the medical staff officer is the only one to whom custom gives no claim on his hospitality, the other staff-officers all living with him. It rained in torrents, with little hope of its termination; there was nothing to be done but to dismount, place one's back against a tree to which the horses were tied, and await patiently dinnerless the approach of another day. I can assure you I have passed pleasanter evenings. Your progenitors, who snored all night by the sides of your mothers or grandmothers, and growled all the mornings the tax-gatherer paid them a visit, had no idea of the comforts we often enjoyed; and no one who had seen my condition in the morning would have pointed me out as the man who, in a short few days, was in the field of battle of Albuhera, to be the arbiter of the lives and limbs of hundreds of his fellow-creatures. The history of that fight has not yet been correctly given: those who know, do not tell the whole truth; and those who do not know, cannot tell it. I found myself the chief of my own arm on that memorable day, the hardest-fought action of the whole war, simply because I was the senior and the junior of my rank. The surgical history of this battle I will some day tell you, and if no one else will, the military history also; suffice it to say, it satisfied me that an injury from the wind of a cannon ball was nonsense. In the middle of the contest I dismounted, and had just placed my bridle in the hand of the orderly who led the King's mule, when a cannon-shot passed between his head and mine. I could not help asking him if his head was on, nor of laughing outright, when, with the most soldier-like gravity, he wheeled to the front facing me, touched his cap, and hoped also my head was safe. At the battle of Salamanca, the fourth division, commanded by Sir Lowry Cole, found itself, as usual, under the heaviest fire of the enemy. The troops were ordered to lie down under the fire of twelve heavy guns, to which we had only six light ones to reply, and I halted a little in the rear to make my arrangements. As it was plain we were in for a good pelting, the General sent his aide-de-camp, Captain Roverea, to ascertain where I had fixed the field hospital, that the wounded might be directed upon it. I was at this moment going to the front, and saw my friend Roverea approaching, when my horse stopped and ducked, a sort of gambol I did not think he was warranted to make from the quantity of corn he had eaten. This motion was explained in a moment; a twelve-pound shot, which he had seen, but which I had not, plunged into the loose ploughed field a few feet before him, covered us both with dirt, and hopped calmly, but irresistibly, over my shoulder. Roverea was so white in the face that I thought he must be wounded; he said no he was not, and eagerly inquired if I had seen that shot pass. I said I had, and nearly felt it too. "Well," said he, "it nearly took my nose off." It was impossible to resist laughing at this, for my poor friend, although a most excellent, honourable, and upright man, was certainly not handsome; he was short, with a large face, having high cheek-bones, and as small a proportion of nose as was ever allotted to man, so that in profile but very little of it was to be seen. I could not for the life of me help saying, "My dear Roverea, it might have taken off your head, but I will be hanged if it could have taken off your nose." Not all the sal-volatile in the army could have brought the blood more quickly into his face, for he was very tenacious on this point, and he very indignantly replied, "Sir, you are the only man that would have dared to make such a remark." He had been shot in the head at Albuhera; his skull had been fractured, and when delirious, he had thrown himself out of bed, and thought he owed his life to my kindness. He was, therefore, soon pacified, and willingly forgave my joke. He fell honourably and for his rank gloriously, shot through the same head on the heights in front of Pampeluna.

After the battle I found myself without conveyance, without stores except those that the panniers of the regimental surgeons contained, and encumbered with 3000 wounded in the village of Valverde. The doctors all worked as no men ever worked before, the toil was incessant, we thought ourselves happy in the improvement of many around us, and that our reward would follow in the approbation of the higher authorities, when lo! to our astonishment, comes a letter from the Adjutant-General, through the Deputy-Inspector of Hospitals, at Elvas, informing him that he had been made acquainted by an officer deserving credit, of the neglect, &c., with which the wounded had been treated; of his great disapprobation, &c. You may conceive our anger, but that is not the way to meet an attack of this sort; when a man errs on the wrong side of truth, the only way to settle the matter is to convict him. I therefore read the letter to the commandant, the late Sir Aretas Young, and to all the wounded officers, and then desired them to tell the Adjutant-General the truth: this I forwarded with a request that the person who was now shown to be a villifier might be brought to justice; but no, the Adjutant-General was pleased to express in reply, his happiness at finding he had been mistaken as to the wounded at Valverde, but thought the word villifier was too strong. I entreated the Deputy-Inspector to go and insist upon an apology from the officer or a reprimand for him from the Adjutant-General, but it was of no use, the deputy was a worthy man but who would as soon have faced the devil as an Adjutant-General, and he gravely wrote me word back, we had got remarkably well out of the scrape and to be quiet. I was not at all contented, but I could not move him. He is long since dead, and I believe with the most profound dread of both these potentates. Well, gentlemen, the matter ended thus: the English papers were full of our valour; our courage, and our difficulties were the theme of every tongue, the humanity men were even satisfied; the General and staff-officers obtained stars and ribbons, the officers commanding regiments, whether in or out of action, received medals, many of them were promoted, the regiments inscribed Albuhera on their colours in letters of gold; some few persons of inferior note, who had disappeared and had been reported dead, returned to life; the poor doctors alone got nothing. Do you wonder now, gentlemen, that a staff-surgeon even, might prefer a comfortable bed and a good dinner at Santarem or Abrantes, at Portalegre, or at Elvas, to the field of Albuhera or the trenches of Badajos. I for one however, got something. I carried away with me a little reputation, owing more to circumstances than to any merit of my own, which with a little more gained in different ways, has enabled me, careless of the past, thus freely and laughingly to address you, for

Ridentem dicere verum
Quid vetat?

"*Mais revenons a nos moutons*," an idiomatic expression often used in France, which signifies when duly translated into English, stick to your proper business.

(*To be continued.*)

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MEDICO-CHIRURGICAL REVIEW,

No. LVI. APRIL 1, 1838,

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THE

Medico-Chirurgical Review,

No. LVI.

NO. 16 OF A DECENNIAL SERIES.

JANUARY 1, 1838, TO APRIL 1, 1838.

DISEASES OF THE RECTUM.

I. A TREATISE ON THE MALFORMATIONS, INJURIES, AND DISEASES OF THE RECTUM AND ANUS. Illustrated with Plates. By *George Bushe*, M. D., formerly Professor of Anatomy and Physiology, &c. 8vo. pp. 299. New York, 1837.

II. ON THE DISEASES OF THE RECTUM. By *James Syme*, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh, 8vo., pp. 138. Edinburgh, 1838.

IN our last number, we devoted many pages to the Authors before us and to the subject on which they treat—Authors who deserve attention—a subject of no small importance. It would be idle dwelling again on the imperfect state of general knowledge with respect to diseases of the rectum. Nor does it appear less idle to re-enter on the strong considerations, which have induced us to devote several articles to the diffusion of as much information, as the latest works convey.

In our last notice, we arrived at the subject of ulceration of the rectum. It occupies the twelfth chapter of Dr. Bushe's work, and is not treated of at all in Mr. Syme's.

The thirteenth chapter of Dr. Bushe's work alludes to venereal ulcerations of the rectum. It only alludes to them, and in a page and a half they are dismissed. The observations are too brief to merit attention. Mr. Syme makes no reference whatever to these ulcers. We shall commence with

1. HÆMORRHOIDAL AFFECTIONS.

The fourteenth chapter of Dr. Bushe's book is devoted to "Affections called Hæmorrhoidal." The second chapter of Mr. Syme's is on "Hæmorrhoids." We shall compare the two authors, and severally introduce them to our readers. We prefer Dr. Bushe's plan and arrangement to those of Mr. Syme, and shall adopt them.

Congestion of the Hæmorrhoidal Vessels.

From the operation of various causes, the vessels of the rectum and anus, and more especially the veins, are liable to be preternaturally distended with blood. This congestion may subside, or give rise to hœmorrhage, or to the formation of tumors at the anus, or to inflammation, or to mucous discharge.

Dr. Bushe describes very fully the phenomena attendant on this congestion of the gut. There is generally, he says, a sense of weight and fulness in the rectum and perineum. Usually too, some of the following symptoms are present: rigors,—rigidity and occasional spasm of the extremities,—pallor,—dinginess of the skin beneath the eyes,—cold, strictured and dry skin,—weight and pain in the forehead,—vertigo,—dryness of the fauces,—white tongue,—vomiting,—temporary augmentation of the liver,—flatulence,—pain in the abdomen—constipation,—scanty and colourless urine,—increased velocity, hardness and contraction of the pulse,—precordial anxiety,—palpitation,—stricture of the epigastrium,—syncope,—hurried respiration,—a feeling of weight in the loins, hips and groins,—dull throbbing pain in the rectum, attended with a sense of increased heat, tenesmus, mucous discharge, and occasional darting sensations resembling those of electricity, itching of the anus,—and finally, painful, difficult, and frequent micturition. This state of congestion of the rectal vessels is apt to occur from time to time, and, sooner or later, at one period or another, one or more of the consequences already mentioned, and now to be more particularly dwelt on, follow.

a. *Hæmorrhage.*—This is a very prominent and important symptom and well deserves attention as a substantive affection. The bleeding, observes Dr. Bushe, usually occurs during defecation, sometimes preceding, but generally following the passage of the feces. Frequently, the loss of even a small quantity of blood relieves the feeling of weight and tension in the perineum, rectum, and lower part of the back, as well as any other disagreeable symptoms which may have existed. The amount of hæmorrhage, however, is not always in proportion to the severity of the symptoms denoting the loaded state of the hæmorrhoidal vessels. Generally it ceases after a few days, yet not unfrequently, it continues for months. In some instances it occurs but once in life; again it may return in the course of a few weeks, months, or even years. Occasionally it assumes a periodical character, returning with the season or the month.

The amount of blood lost varies; a drachm, an ounce, or even a pint may be discharged at a time, though it must be confessed that, the admixture of other fluids is apt to impose upon the inexperienced, the belief that the loss of blood is much greater than it really is.

In a note Dr. Bushe cites a few instances of the amount to which hæmorrhage, and of the far greater amount to which credulity may go. Thus, Montanus, according to the report of Schwevcher, saw a patient who had passed two pounds of blood for forty-five successive days, and finally recovered. (*Append. consilior. Montani*, p. 59. *Basil*, 1588. Cornarius mentions the case of a gentleman who, after drinking freely of Hungarian wine, lost two pounds of blood from the nose, and six pounds on each of the four following days from the anus. Nevertheless he got well without any remedy. (*Observ. med.*, 26.) But Panarola tells a better story, for he knew a Spanish Nobleman, who, for forty years, rendered each day a pint of blood *per anum*, and at the same time enjoyed perfect health. Bozelli beats Panarola hollow. He mentions the case of a tailor, who lost as much as ten pounds of blood at a time. This man was nevertheless vigorous and of a jovial character. Bozelli diminished this flux by means of the syrup of roses. Spidler saw a potter, who after having suffered for a week with pain in the loins, was seized with violent colic, and severe vomiting. A cathartic was administered, which relieved him; but he passed from twelve to fourteen pounds of vermillion-coloured blood from the anus, in twenty-four hours, each dejection being accompanied with a slight colic pain. After many remedies were tried in vain, the hæmorrhage was arrested by a stimulating injection. (*Observ. med.* 44.) Hoffman says he saw a widow, fifty years old, of a very full habit, who in consequence of an indolent course of life and full living, was for eight years subject to hæmorrhoids, at the same time that she continued to menstruate. The uterine discharge having ceased, and being blooded but once, she was seized, towards the autumnal equinox, first with lassitude, and then with coma, for which she was bled in the foot, and took cold water in large quantities without any benefit. At the end of two days, however, a stimulating lavement was administered, when an excessive flux of blood occurred, amounting in twenty-four hours to more than twenty pounds; the consequence of which was, a cessation of the coma. Her strength gradually returned by the employment of invigorating and gently astringent remedies, together with enemata of cold water. Semtius relates the case of a man forty years of age, who passed per anum at least thirty pounds of blood in two or three days. He was cured by a tonic plaster. Twenty pounds of blood in four and twenty hours are a respectable quantity for an honest woman to get rid of.

The character of the hæmorrhage deserves a few words. Dr. Bushe remarks that the blood evacuated, is of a bright vermillion colour, and is exhaled by the extremities of the capillary vessels, as may be demonstrated by an examination of the mucous membrane when protruded, an occurrence which very often takes place in these cases. In some instances, fine streams of blood are seen to issue from dilated pores, which we are afterwards unable to detect. Besides this evidence of the source of the discharge, the symptoms which precede the flow of blood, their subsidence on the occurrence of hæmorrhage, together with the colour of the blood, plainly demonstrate the nature of the attack. However, when the bleeding has been profuse, the vessels may become so debilitated, as to allow the blood to escape from their extremities, constituting passive hæmorrhage.

Whether the blood issues from "dilated pores," may, perhaps, admit of question. It is common enough for it to issue from protruded mucous membrane in a fine continuous jet. Mr. Syme observes that the bleeding takes place when the tumors are protruded beyond the sphincter, and varies in amount from a few drops to several ounces. The blood sometimes seems to ooze from the surface, and at other times springs out in a jet, extending, if permitted, to the distance of several feet; whence it is often supposed that the patient has ruptured a blood-vessel. The quantity lost at each time of going to stool is very unequal, and varies with the condition of the patient, increasing when there is general irritation of the system or excitement of the pelvic viscera, and diminishing in circumstances of an opposite kind. For weeks or months the hæmorrhage may cease altogether, and then return more vigorously than ever; but its general tendency is to increase with the duration of the complaint.

The effects of the hæmorrhage upon the general health are a subject of great practical importance. The notion that it is salutary and should not be repressed has taken deep root in the public, some, perhaps, in the professional mind. That notion is partly founded in truth, partly in exaggeration. Without quoting cases which reading will supply to all well-informed medical men, we are tempted to extract some communicated by Dr. Bushe, because we think they put the matter on its proper footing. Dr. Bushe mentions two which proved fatal.

Case. 1. A gentleman between fifty and sixty, of short stature and full habit, who for many years had been subject to a profuse discharge of blood from hæmorrhoidal tumors, underwent an effectual operation for their removal, and died in seven month afterwards of apoplexy.

Case. 2. Another gentleman, under thirty, for a few years laboured under a free hæmorrhoidal discharge, which, as it debilitated him, was checked by astringents. In a short time, however, he was attacked with pulmonary hæmorrhage, and, at the end of a year and a half, he sank, after a profuse discharge of blood.

These cannot be considered as conclusive instances of the dangers resulting from the stoppage of hæmorrhoidal bleeding. Yet, although not logically conclusive, they are practically calculated to inspire caution, and to lead the surgeon to adopt all possible means of warding off such dangerous results of operations intended for cure. Those means are very obvious. The patient should live sparingly, keep his bowels open, take ample exercise—in short he should do what will tend to prevent his making too much blood, and will carry of by the secretions and excretions the superfluous parts of what he does make. If such precautions are neglected by surgeon and patient. Dr. Bushe shews us what may, and what frequently will follow.

"If in spite of these means," (exercise, &c.), says Dr. Bushe, "the patient be threatened with congestion of any other organ, he ought to immerse his feet in warm mustard water every night, or else, sit in a hip bath, as hot as he can bear it,—to have six leeches applied to the anus every second day,—and, to take a pill consisting of one grain of calomel, half a grain of ipecacuanha, and three grains of the extract of aloes, every eight hours, until his symptoms are moderated. In this way, great danger may frequently be averted, as I have had much proof; but, to illustrate the point better, I shall give the outline of three cases.

Mr. S., on whom I operated for bleeding hæmorrhoidal tumours, lived sparingly, and took exercise for some months, by which he was restored to excellent health. He then gave up his exercise, and lived well, taking a moderate quantity of wine daily. In nine months after the operation, and two after his change of regimen, he had an apoplectic seizure, from which he recovered under antiphlogistic treatment. He then enjoyed good health, by taking five grains of the extract of aloes, two of blue mass, one of ipecacuanha, and two of ginger, in two pills every night, and applying four leeches to the anus every morning, at the same time exercising much, and living very sparingly. After a few months, he gradually sunk into his usual way of life, and had another slight apoplectic attack, which, however, soon subsided, under bleeding, purging, and revulsion on his extremities. Since his recovery, which is now more than eighteen months, he has lived altogether on vegetable food, has drank nothing but water, and has ridden on horseback from ten to twenty miles a day, when the weather permitted. His health has been good; but, occasionally he has suffered from vertigo, which has yielded to stimulating pediluvia, and the pill above mentioned.

I removed five large hemorrhoidal tumours from Mr. L., and gave him directions, as to the course of life he ought to pursue. He did not attend to these, and consequently was attacked with spitting of blood, for which I was consulted, and recommended leeching the anus twice a week; two pills containing five grains of the extract of aloes, and five of blue mass, at bed time; a solution of the sulphate of soda, in the morning; low diet; and, after the spitting of blood ceased, regular exercise. He took altogether, twenty-four pills, three ounces of the neutral salt, and applied two dozen and a half of leeches, when he felt himself perfectly recovered, but weak. It is now fourteen months since the spitting of blood ceased, and by exercise and low living, he enjoys uninterrupted good health.

Mr. E., from whom I removed four bleeding hæmorrhoidal tumours, was attacked, two months after the operation, with spasmodic cough, and irritation of the membrane of the larynx, in consequence of which, he expectorated an immense quantity of a frothy tenaceous matter. He was an immense eater, and a man of sedentary habits. I had a great difficulty in conquering these failings, but, when I did so effectually, with the aid of warm hip bathing, leeches to the anus, and pills, consisting of the extract of aloes, calomel, ipecacuanha, and extract of belladonna, he gradually recovered." 194.

But it must not be supposed, that the hæmorrhage is generally useful, or that its arrest is generally prejudicial. Continued bleeding from the bowel occasions all the consequences of excessive bleeding from other sources. The patient loses flesh, has a waxen complexion, is listless, has a quick pulse, palpitations, dyspnœa, incapability of much exertion, either of body or mind.

Few surgeons have escaped seeing instances of this description, and few too have failed to witness the safety and advantage with which they may be frequently checked by operations. We may cite, as an instance, one detailed by Mr. Syme. He attended a lady with Dr. Donaldson, of Ayr. At an early age she had begun to suffer from hæmorrhoids, and thirty years ago had been advised by the late Mr. Benjaimn Bell to have them removed. This was declined, and the disease went on increasing with all the usual symptoms, until at length the bleeding, which for seven or eight years had been very profuse, so affected the general health as to excite the serious alarm of her friends. She exhibited in an extreme degree the peculiar aspect and other symptoms of exhaustion caused by a continued drain of blood. But very soon after the removal of the hæmorrhoidal tumours, which were large and numerous, so as to encircle the aperture of the gut, she regained her strength together with a healthy look; and though three years have now elapsed since the operation was performed, she has not suffered any unpleasant symptoms from the sudden suppression of her complaint,

Though we need not apprehend fatal results whenever we arrest the hæmorrhage of piles, still, in subjects disposed to plethora, or of an age to render its occurrence likely, the prudent surgeon will enjoin after the operation those precautions which tend to keep such injurious dispositions in abeyance.

B. *Internal Tumors.* These are so generally believed to be varices of the hæmorrhoidal veins, that many of our readers will probably be startled at the mention of any other explanation of them.

These tumors may either be within or without the anus. These have respectively received the names of "internal," and "external piles." Those situated, says Dr. Bushe, immediately within the anus, vary in number, in many instances being so numerous, as to prevent the free discharge of feces, while in other cases, they are few, even solitary. Their size is as variable as their number, differing from that of a small pea to a pullet's egg. They are generally globular, and in many instances pedunculated, particularly when large, and subject to prolapse during defecation; for, under such circumstances, they swell and suffer a constriction at their bases, from the contraction of the spincter. Generally, they are of a dark red colour, and when prolapsed, they become perfectly livid, in consequence of the obstruction created to the return of the venous blood; firstly, by the forced expirations necessary for the act of defecation, and secondly, by the constriction of the sphincter.

Mr. Syme remarks, that the tumors seated within the sphincter, and capable of being forced into view by powerful expulsive efforts, possess an irregularly round form, a florid colour, a granular uneven surface, and very vascular structure, so as to bleed freely from the slightest injury. They resemble a strawberry very much in appearance, and seldom existing singly, in general constitute a more or less complete annular swelling, which, when protruded beyond the anus, seems to close the aperture of the gut completely, and is surrounded by an external ring proceeding from distention of the neighbouring loose texture, which is the seat of external hemorrhoids.

a. These tumors, as we have observed, are by the great majority of medical men considered as varices, of the hæmorrhoidal veins. But, at various times another opinion has been entertained. Dr. Bushe informs us:—

> "I have repeatedly injected these tumours with coloured water, both from the arteries and veins, and when cut into while the fluid was projected, small jets were observed to issue from many points. I have frequently dissected them with the greatest care, and found that they were spongy, reddish, and contained both arteries and veins, the latter being most capacious, but always perfectly healthy. Their surface is villous, and generally bleeds when touched roughly, or scratched with the nail, the blood which issues being of a florid red colour. In many instances, I have been able to rub off exceedingly vascular and fragile adventitious membranes from their surface. Thus, it would seem, that they may acquire an increase of magnitude in this way." 152.

Mr. Syme observes—

> "The substance of the internal hemorrhoidal tumour is so vascular and disposed to bleed, especially when forced beyond the sphincter, that it has been considered similar to the erectile tissue which composes aneurism by anastomosis and nævus. But these diseases are, with few if any exceptions, of congenital origin; while internal hemorrhoids rarely make their appearance before the age of maturity; and the vessels of the latter growth, instead of being dilated into the cellular-looking structure which composes the former, are small and arborescent. There hence does not appear to be any analogy between the two morbid structures farther than their disposition to bleed." 59.

b. Dr. Bushe proceeds to describe the progress of the tumors. When small they are generally attended with slight heat and itching, but as they enlarge they produce a disagreeable sense of fulness in the lower extremity of the rectum, and are prolapsed during defecation, after which they gradually shrink up, and by the action of the muscular apparatus of the anus are returned to their original situation. In some cases, however, the sphincter becomes more or less relaxed, and these tumors in descending drag along with them a portion of the adjacent mucous membrane. Indeed, so large is the protrusion, that persons thus afflicted are compelled to return it with their fingers, and many of them postpone the calls of nature, until they are about to retire for the night, in consequence of the difficulty they experience, and the time they require, to reduce it, and above all, as they can only effect this in the horizontal position. In many cases, the protrusion occurs, when the patient walks, or even attempts to ride in a carriage, and thus gives rise to great uneasiness and mucous discharge. Besides the protrusion of the mucous membrane now described, that of the pouch frequently takes place from the constant nisus these tumors are apt to create.

In a few cases, when there is but one tumor, it is situated low down, and though not large, partially projects through the sphincter and gives rise to very great annoyance.

In consequence of the difficulty occasioned by defecation to the return of the venous blood, the latter accumulates in the rectum, and these tumors exhale it, perhaps in large quantities. Prior to the formation of these tumors the mucous membrane may furnish the hæmorrhage, and after their removal it may do so again, a fact which Dr. Bushe has witnessed, and which, we may add, we have witnessed too.

c. Both Dr. Bushe and Mr. Syme insist on a leading and deceptive feature of this disorder—the protrusion of the tumors and of the mucous membrane. Mr. Syme speaks most fully upon this point, and, as it is one of great importance, we extract his observations.

"The protrusion of the swelling is a nearlyconstant symptom of the disease, and is troublesome merely in proportion to their size. At first the tumours pass beyond the sphincter only during the forcibleand continued efforts to evacuate the bowels which attend constipation; but by-and-bye they descend more readily, and return with more difficulty, requiring to be pushed up by external pressure; and in cases of old standing, where the skin lining the anus, from being frequently put upon the stretch, remains permanently relaxed hanging in folds round the orifice, the tendency to protrusion is so great, that the hemorrhoids descend not only on all occasions of going to stool, but also whenever the patient makes the slightest exertion, or even when he simply assumes the erect posture. The protruded part is of course painful, especially when subjected to pressure, and, by soiling the patient's clothes with the mucous and bloody discharge that issues from its surface, is a constant source of vexation. A middle aged lady, whom I saw with Dr. Begbie, had been confined for two years to the horizontal posture by hemorrhoidal swellings, which descended from the gut whenever she attempted to walk or stand. After the disease was removed she could walk for miles without any inconvenience.—A gentleman, about 50, whom I saw with Dr. Davidson, had suffered for upwards of eighteen years from a protrusion of this kind, and, holding an office in the courts of law, which frequently required him to sit for many hours in public, endured more distress than it is easy to describe or imagine. He was completely relieved by removal of the enlargement.—A man, about 40, from Dundee, was lately in the hospital here under my care on account of a hemorrhoidal protrusion, which troubled him for more than twenty years, and latterly disabled him entirely for his occupation, which was that of a weaver. He returned home quite well.—Many other cases could be mentioned in illustration of the protrusion of the tumours constituting the prominent feature of the disease. It is such cases which generally go under the title of *Prolapsus ani*, and, being supposed to depend upon weakness of the sphincter, are paliated very imperfectly by the application of bandages to support the gut. Such means of palliation are no less unpleasant than inefficient, and in some respects, indeed may be considered as even more irksome than the disease itself. It is therefore of the utmost importance to take a correct view of the derangement, which leads to an easy, safe, and effectual remedy." 66.

The distinctions between protruded tumors and prolapsus of the mucous membrane, or polypi, are well drawn by Dr. Bushe. The form of prolapsus, he says, with which they are likely to be confounded, is that chronic affection in which a flap of the mucous membrane, on either side, is forced down and becomes thick and rugous. However, the semilunar form of these flaps, the extent of their base, our ability to glide the folded membrane between the finger and thumb, as well as their freedom from erection and hemorrhage, are characters so opposite to those which we have described as pertaining to hemorrhoidal tumours, that a very cursory examination enables us to distinguish between them.

The slow, progressive, and indeterminate increase of every species of polypi; their incapability of erection or collapse; their large size; their pale red colour; their very soft spongy feel, when of the mucous species; their solidity, when they posses a fibrous structure, together with their freedom from inflammation and ulceration, unless when of a malignant character, or when under the influence of an irritating cause, enable us to avoid confounding hemorrhoidal tumors with them.

d. These tumors, even when free from congestion, and producing little immediate uneasiness, occasionally give rise in nervous individuals, to contraction of the sphincter ani and exquisite pain, which, when violent, extends to the uterus, vagina, and external organs of generation in the female, to the perineum and testicles in the male, and to the bladder and urethra in both sexes. The constant tenesmus, strangury, and dysury which it produces, wears the patient down, giving rise to sleeplessness, anxiety and fever, and in some rare cases, so excruciating is the pain, that the patient must remain perfectly tranquil, as the least motion exasperates his suffering to an intolerable degree.

Both Dr. Bushe and Mr. Syme relate cases that merit the attention of our readers, and must tend to fix important facts upon their memories. Mr. Syme indeed dwells strongly on the irritation of the urinary organs, and on the want of any regular proportion between these and other occasional symptoms and the stage of the tumors themselves.

Case 1. A gentlemen, about 50, suffered for years from excessive pain in the region of the bladder, with frequent desire to make water. He consulted a great many physicians and surgeons of eminence, and had at length made up his mind that the disease, in accordance with the opinion of a distinguished pathologist, was tic-douloureux of the bladder, when a medical friend thought of examining his rectum, and discovered several large internal hemorrhoids, which Mr. Syme removed to the patient's great comfort.—*Syme.*

Case 2. In september, 1832, Mrs. ——, aged 29, consulted Dr. Bushe. She informed him, that, in 1829, she began to menstruate irregularly and scantily, but lost blood occasionally from hemorrhoidal tumors, which were very painful. In 1830, she first experienced some difficulty in micturition, attended with shooting sensations in the vulva, which towards the end of the year became very distressing; nothwithstanding, she married, but so great was her suffering that she was seldom able to cohabit, and only with exquisite pain. In 1825, her husband died, and then she menstruated more profusely, yet irregularly, while the hemorrhoidal discharge diminished, the pain became far less, sometimes disappeared altogether, but occasionally returned with severity, attended with frequent and distressing calls to void urine, tenesmus, small mucous dischage, and firm contraction of the sphincter. During these attacks, the hemorrhoidal tumors were swollen, but when they began to bleed freely, the symptoms moderated. It frequently happened, however, that this did not occur, but that the uterine flux set in, which also moderated the symptoms, but not at all to the same extent. Being about to make an advantageous match, she was desirous to obtain relief if possible; therefore, she willingly submitted to an examination, which led to the detection of five or six large hemorrhoidal tumors, attented with great tenderness, not only of the anus, but also of the external organs of generation, and spasm of the sphincter ani. Dr. Bushe removed the tumors, and so successfully, that she shortly married, and had no return of her disease.—*Bushe.*

Case 3. Mrs. ——, from childhood has been subject to constipation of the bowels. She menstruated at fourteen, and experienced no derangement of the uterine system until between fifteen and sixteen; then, the discharge ceased for four months, during which time she lost a considerable quantity of blood from hemorrhoidal tumors. With the return of the uterine, the hemorrhoidal flux disappeared in great measure; but the tumors continued and became exquisitiely painful, as well as the surrounding parts, attended with frequent painful calls to micturate. At the age of seventeen she married, but so painful was the vulva in May, 1833, four months after her marriage, that her husband had not been able to cohabit with her. Dr. Bushe being consulted, found the lower extremity of the gut beset with hemorrhoidal tumors. The examination gave rise to exquisite pain, extending to the organs of generation, and to exquisitely marked spasm of the sphincter ani. Dr. Bushe removed the tumors, regulated her bowels, ordered a warm hip bath daily, and suppositories of belladonna and opium every twelve or twenty-four hours. In three weeks she had perfectly recovered.

Case 4. Mr. —— consulted Dr. Bushe for "neuralgia of the testicles." He had piles, from which the pain extended to the perineum, testicles, bladder and urethra. He was emaciated and worn down by continual suffering and nervous excitement. For fourteen months, he had tried all the most powerful narcotic remedies, as well as iron, bark and arsenic, both warm and cold bathing, exercise, a sea voyage, and so on; but without advantage. Dr. Bushe first regulated his diet and bowels, and then removed the hemorrhoidal tumors, with such advantage, that in a month he had not a remnant of his very painful disease.

e. When we recollect, says Dr. Bushe, the structure and situation of these tumors, we ought not to be surprised, that they very often become inflamed, increase much in size, are attended with great pain, muco-purulent dischage, and disorder of the urinary organs In this state, provided the tumefaction be great, the patient feels as if there were foreign matter in the rectum, straining ensues and they are prolapsed, now, the sphincter becomes affected spasmodically and presses on their radices, giving rise to great suffering. The inflammation may subside in one, two or three days, and then these tumors will either recede of themselves, or the patient be able to return them in the usual manner; but it sometimes happens that the sphincter contracts with so much force, as to strangulate them, and cause mortification; an event which generally effects a radical cure, through a few cases are recorded in which the issue was mortal. Of four cases which Dr. Bushe has seen, three terminated favourably, and one fatally.

f. It not unfrequently happens, continues Dr. Bushe, that, in consequence of inflammation in these tumors, small abscesses form in them, attended with a discharge of purulent matter from the anus, and more pain and irritation of this part than usual. Such cases are far from being uncommon, and are too often overlooked. To detect these small fistulæ the finger ought to be cautiously introduced, and after a little exploration, a small depression, marking the fistulous orifice, may be discovered on each tumor thus affected. But should this attempt fail, the buttocks ought to be forcibly separated by an assistant, while the patient bears down; then, with a strong light and a probe of a small size, the sinus will be easily found. Dr. Bushe has occasionally seen two or even more of the tumors fistulous.

g. Occasionally, these tumours are attacked with ulceration, and in such cases, it generally seizes on many points at the same time, but seldom advances to any great extent. I have, however, seen a case in which three very large hemorrhoidal tumours were one half consumed; and in the twelfth chapter, page 138, I have related another, which is interesting on account of the phagedenic character of the disease. Hemorrhage is sometimes the result of the ulcerative process, as I had an opportunity of observing in the two following cases. Mr. C., a gentleman advancing in life, of full habit, and subject to hemorrhoids for many years, during a salivation, which resulted from the mercurial treatment of a severe fever in the West, was attacked with more than usual uneasiness and purulent discharge from the rectum while at stool. In a few days he began to bleed, and so much did this increase, that he repaired to New-York, and became my patient. He was very low from loss of blood, and distressed in mind. I made a careful examination, and found four hemorrhoidal tumours, one of which was as large as a peach stone, and ulcerated deeply. When he strained, all the tumours were prolapsed, and florid blood issued freely from the ulcerated surface. I removed the tumours, and he soon regained his health. The other case was that of a planter from Louisiana, who arrived here this summer, on his way to Paris, to be operated on; but so low was he when he reached this city, that he felt unable to proceed, and, therefore, sent for me, and had the operation performed. In this case there were several ulcerated points on each tumour, and though they were superficial, the hemorrhage from them was very brisk. Nothwithstanding I have seen several cases of ulcerated hemorrhoidal tumours, those are the only ones that were hemorrhagic, and this I am inclined to attribute to the condensation which they generally undergo from repeated attacks of inflammation, previous to the commencement of the ulcerative process." 159.

h. Though these tumors maintain their spongy structure for years, yet it occasionally happens that, from constant irritation they become transformed into a semi-cartilaginous mass, being firm, yellow, and nearly bloodless. Dr. Bushe removed some tumors of this kind from a lady.

i. Before we quit the consideration of the symptoms and consequences of internal hæmorrhoidal tumors, we must draw attention to some remarks of Mr. Syme's. They are of considerable practical value.

> "The existence of bleeding from internal hemorrhoids frequently escapes the observation of the medical attendant, from the patient carelessly overlooking or wilfully concealing it. In females, the delicacy of the sex, which is an additional obstacle to discovering the disease, should excite corresponding vigilance on the part of the surgeon; and whenever there is any ground for suspecting its existence, be the patient male or female, an examination of the bowel in its most protruded state should be insisted upon before giving any opinion of the case. It is also very necessary to beware that the symptoms, especially those connected with the circulation, do not obscure the nature of the disorder, and make it appear to depend on what are really its secondary effects. As an instance of this, I may take the case of a gentleman, about 40, an English commercial traveller, whom I saw last spring with Dr. Alexander. He had laboured long under what was supposed to be disease of the heart, and been treated for this complaint by one of the most eminent provincial physicians in England. His waxy look, bloodless lips, and defective energy, together with irregular action of the heart, certainly afforded considerable ground for this opinion; but Dr. Alexander discovered that there was an internal hemorrhoid, which bled profusely every time the patient went to stool, and I removed it, with the effect of quickly restoring him to health. There is reason to fear that in such cases as this the cause has not only been mistaken for the effect, but may even have been supposed to exert a salutary influence in moderating the violence of its action,—in other words, that the flow of blood from the rectum depended upon disease of the head or heart, and was useful in lessening its force. Such erroneous views may have led to the equally erroneous practice of abstracting blood artificially in these circumstances, the effect of which may be easily imagined." 72.

Perhaps no words of our's could add to the force of these recommendations. Yet we may be permitted to observe that the rectum is probably too little examined, and that descriptions of symptoms relating directly or indirectly to it, are too often taken on trust. The reasons are not hard to guess. An examination is not pleasant, either to medical attendant or patient, and, if the latter is a female, nothing but necessity will justify it, at leas in her eyes. Yet if the surgeon consults his reputation and his patient's welfare, he will insist on an examination when positive symptoms are complained of, or when suspicious symptoms not otherwise well accounted for exist. It was but a very few days ago that we saw a patient, who, by the advice of a medical man, had been wearing a truss for prolapsus ani, and whose complaint we ascertained, on examination of the bowel, to be internal piles and ulcer of the rectum. The truss had been ordered without accurate examination.

c. *Tumors at the verge of the Anus, or "Venous Hæmorrhoids."* Dr. Bushe only takes up the consideration of these tumors at an advanced stage. Their early stage he does not notice, or, if his observations refer to that period, they seem to us to be incorrect. Dr. Bushe considers these tumors as resulting throughout from blood extravasated into the cellular membrane.

Mr. Syme takes a much more correct view of their origin, but, oddly enough, he does not allude to their occasional termination. So, in fact, Mr. Syme describes one stage, and Dr. Bushe another. Each offers his description as complete, while, in reality, that of neither is so.

Mr. Syme, then, decribes this second kind of hæmorrhoidal tumor in its origin. Dr. Bushe exhibits it in its advanced condition.

The lower part of the rectum, says the former gentleman, is supplied with numerous veins lying under the mucous membrane, through which they may be readily distinguished. These vessels in the neighbourhood of the anus are liable to varicose enlargment, and then present the appearance of irregular tumors encroaching on the cavity of the gut. They extend for an inch or two above the anus, but hardly show themselves beyond it, unless the nates are held aside, when they may be seen projecting from the sides of the orifice. They possess a dark colour, smooth surface, circumscribed form, and tense consistence. The veins thus altered are liable to inflammation of the same subacute kind to which the varicose *vena saphena* is subject. In this state they become larger, harder, and excessively painful, especially when in the slightest degree compressed, so that sitting and evacuating the bowels occasion great distress. The blood circulating through them frequently coagulates during such attacks; and if it subsequently undergoes absorption, a spontaneous cure may be accomplished. At other times suppuration ensues in the surrounding cellular substance, and may thus lay the foundation of *fistula in ano.* A dischage of blood also occasionally proceeds from ulceration of the enlarged veins, just as happens in the leg.

This form of the disease has attracted more attention than either of the others, and has even been supposed to be the sole cause of hemorrhoidal swelling. In a slight degree it is certainly very common, and to this extent frequently exists, along with enlargement of the neighbouring textures; but without such combination it rarely attains sufficient size to produce much inconvenience, or attract the patient's notice. The situation of the visible part of the tumors, neither within nor altogether without the sphincter, together with their form, consistence, and colour, render their recognition very easy.

Thus Mr. Syme will be observed to place the commencement of these tumors in dilated veins. We have noticed, in the examination of dead bodies, the veins beneath the mucous membrane of the bowel, at the anus, excessively dilated, and forming distinct varices. That it is by enlargement and inflammation of these veins that many hæmorrhoidal tumors begin, we can have no sort of doubt. Yet it is singular that so accurate an observer as Dr. Bushe should overlook, or, rather, deny this circumstance. Take his description.

"The second class of tumours are those situated on the verge of the anus, though I have seen a few cases in which they extended a short way within this orifice, being in part covered with the mucous membrane. They are more or less lived, generally elastic, have an extensive base, and are formed of extravasated blood, which is encysted by condensed cellular tissue, and covered by a few fibres of the sphincter and fine skin of the verge of the anus. I have satisfied myself of these facts, by cutting off the prominent portion of the tumour and then turning out the extravasated blood, in the living body, and by cautious dissection in the dead. Sometimes the blood is absorbed, leaving no trace behind; occasionally, however, in consequence of the first, but more especially of repeated attacks, the superincumbent integuments and surrounding cellular tissue, become hypertrophied, and pendulous flaps or tumours, which in some instances, from the friction they are exposed to, obtain a rough or warty aspect, and become a source of great irritation. It not unfrequently happens, that when there is but one large tumour, it suppurates and then gradually shrinks up.*" 164.

It appears to us that Dr. Bushe has examined these tumors at an advanced stage, and in an aggravated degree, when the vein leading to the coagulum in the original varyx is choked up, and when the varyx looks like an independent extravasation. We are unable otherwise to account for Dr. Bushe's denial of a fact equally obvious in the living and the dead—the not unfrequent occurence of varices in the hæmorrhoidal veins at the anus.

D. *External Hæmorrhoids.*—Mr. Syme's description of these is much superior to any we find in Dr. Bushe's work. To it, therefore, we devote ourselves. The thin skin, we quote Mr. Syme, which connects the internal mucous and external cutaneous covering at the anus, like the same texture in other situations as the lip and prepuce, is liable to swelling, from distention of the loose cellular substance which lies under it. Any irritation in the vicinity may occasion this; and the derangement once induced contributes to its own increase, by causing protrusion of the affected part beyond the sphincter, when, the circulation being impeded, the tendency to inflammatory engorgement is promoted. A tense red tumour, or series of tumours, may now be seen at the margin of the anus, easily distinguishable from varicose veins in the same situation, by their florid colour, pyriform shape, and more yielding consistence. In other respects the symptoms are nearly the same. The inflammation usually terminates in resolution, but sometimes leads to suppuration, and also, though very rarely, proceeds to mortification. When the engorgement attending the excited action subsides, the distended skin may resume its natural condition completely, but, in general, does so only partially, and remaining relaxed, constitutes a permanent pendulous fold at the orifice of the gut, always ready to resent any irritation, and swell to its former or even a still larger size.

The artificial mode of life which results from the usages of civilized society tends so strongly to the production of hemorrhoidal disease, that few people remain altogether free from it; and this form is the one which it most frequently assumes, often existing independently of any other morbid affection, and very generally accompanying other diseases of the rectum.

E. *Causes of Hæmorrhoidal Tumors.*—Dr. Bushe enumerates them very fully. The catalogue may, at first sight, appear formidable. They are, the structure of the part,—age,—sex,—climate,—period of the year,—hereditary predisposition,—the suppression of other hemorrhages,—habit,—plethora,—other diseases,—passions,—constipation,—pregnancy,—the developement of tumors in the pelvis and abdomen,—disease of the liver, pancreas, spleen, lungs, heart or aorta,—obliteration of the inferior mesenteric vein,—tight lacing,—concussion of the abdomen,—the application of bandages to the inferior extremities,—pierced seats,—certain alimentary substances,—stimulating purgatives,—irritating enemata,—diarrhœa,—dysentery,—prolapsus of the rectum,—ascarides,—external irritation,—stone in the bladder,—stricture of the urethra,—disease of the prostate,—and excessive venery.

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* "I had an opportunity of dissecting a case of this kind, in a soldier, who, died of fever, and I ascertained that the abscess was in the cellular tissue, *not in a vein.*"

Dr. Bushe considers these causes in detail. We need not follow him through each particular, but merely take notice of the leading circumstances.

a. Age. "Adults are more liable to hemorrhoidal affections than youths. I have, however, observed a well marked case, attended with hemorrhage, in a boy five years old, who laboured under stone; and another in a girl, between six and seven. Such cases, however, are very rare, first, because in early life, the head and chest are more subject to vascular repletion, than the abdomen; whereas, in mature life, this region is peculiarly susceptible of sanguineous engorgement; secondly, because the venous system is more fully developed in the adult, and the circulation less rapid; and, thirdly, because the bilious temperament and depressing passions pertain, for the most part, to those who have passed the period of puberty. Besides these differences, which are applicable to both sexes, there is another peculiar to females. This is the cessation of the natural menstrual discharge, in consequence of which, especially in plethoric women, the system becomes surcharged with blood. If, under such circumstances, the vessels of the rectum exhale the superfluous blood, we look upon the hemorrhage as a fortunate occurrence, for in this way fatal attacks of apoplexy and other diseases are warded off. 168."

b. Sex. In opposition to the prevalent opinion, Dr. Bushe thinks men more prone to hemorrhoids than women.

c. Hereditary Predisposition.—Perhaps it is hardly necessary to quote facts in favour of this. Children of hemorrhoidal parents, possess a similar organization, and are, in consequence of it, predisposed to these affections. Many authors have related cases, with a view of illustrating this tendency. M. de Larroque mentions an entire family, amounting to eight or nine in number, who were thus afflicted.

d. Suppression of other Hemorrhages.—Dr. Bushe relates one or two cases in corroboration of this not unimportant fact.

Case 1. A gentleman, now upwards of 50, left Ireland several years ago, in consequence of a dangerous spitting of blood, and settled in the South, where he transacted a large commercial business. The expectoration of blood soon subsided; but he was attacked with hemorrhoids, and though the discharge of blood was considerable, he continued to enjoy excellent health. Having made his fortune, and being excessively annoyed with the constant protrusion of the tubercles, when he attempted to walk, he went to Paris, and had them removed by the late M. Dupuytren. He soon recovered from the operation, and returned to the United States, labouring under a determination of blood to the head, for which he consulted Dr. Bushe. He recommended low living, leeching the anus, and pills consisting of the extract of aloes and blue mass. Under this treatment, he experienced great relief; but though a period of three years has since elapsed, he has been compelled repeatedly to have recourse to the same means.

Case 2.—"A gentleman, between forty and fifty years of age, from boyhood had been subject to epistaxis, yet enjoyed perfect health. In 1832, he laboured severely some weeks from headache, vertigo and syncope, in consequence of the suppression of the nasal hemorrhage. He consulted me, and I recommended leeches to the schneiderian membrane, and a cathartic, from which he derived no advantage, for the symptoms above mentioned continued, and he became chilly, suffered from abdominal pain, and a sense of weight in the rectum. I now ordered a stimulating pediluvium, and a brisk purgative. He soon felt a desire to defecate, and while on the chair, evacuated quite a pint of blood. Immediate relief followed this discharge, and in the course of the night, he lost about as much more blood, during the operation of his medicine. When I visited him on the following morning, he felt perfectly restored, and wished to go to his counting-house, a request which I, of course, did not comply with. He was rapidly restored to his wonted condition, in which he still continues, through the medium of a regular hemorrhoidal flux, which seems to have supplied the place of the epistaxis." 172.

e. We perceive no necessity for pursuing these details farther. Our readers need not be told, for example, how constipation or pregnancy may lead to hæmorrhoids. But, on a review of their causes, Dr. Bushe divides these affections into constitutional and accidental, and he is inclined to lay some stress on the distinction.

"When they are constitutional there is an hereditary predisposition, they are generally of long standing, and the attacks, which are frequently periodical, occur independently of local and accidental causes. The relief resulting from the attack, the quantity of blood effused, the existence of tumours, the intensity and duration of the pain, the age, season, climate and habits, should be taken into account, when determining the nature of the affection.

In the accidental affections, the hereditary predisposition does not exist, and neither age, season, climate, nor habit are concerned in their production. The paroxysms are not periodical, and they afford but little relief, unless the evacuation has been preceded by violent congestion of the vessels of the rectum. A local cause easily determined, produces and prolongs the attack; but the best proof of the accidental nature of the disease, is the absence of the symptoms denoting a fluxionary movement, and finally, the presence of but a few local symptoms." 176.

Enlargement of the Hæmorrhoidal Veins.—Before we proceed to the treatment of hæmorrhoidal tumors, we ought to mention that Dr. Bushe devotes a separate chapter to "Enlargement of the Hæmorrhoidal Veins." As this bears on the points to which we have referred a few pages back,* we think it right to put our readers in possession of Dr. Bushe's sentiments, on a matter of some pathological interest, if not importance. We must quote his words:—

"In the chapter on hemorrhoidal affections, I gave such a description of the tumours which result from a determination of blood to the rectum, as I was warranted, from the examinations I had made of them. Whether they had their origin in diseased veins, I did not, nor do I now, pretend to determine. Some investigation, freeing his mind, in the first instance, from the plausible theory of their venous origin, and recollecting also, that a morbid structure may not have the same identical arrangement, from the commencement.

Slight dilatation of the hemorrhoidal veins is very common, especially in persons subject to enlargement of the veins of the inferior extremities, and in such persons, the portal veins are generally more ample, and have thinner tunics, than in those who are free of this infirmity. These facts I long ago satisfied myself of.* I must say, however, that the dilatation of the hemorrhoidal veins, which I have seen, bore no resemblance, whatever, to the hemorrhoidal tumors; nor did it appear to me, that the dilated veins were undergoing any structural alteration, which would lead to the supposition that they were about to be converted into hæmorrhoidal tumours. In plate iii. fig. ii, is represented the anus of a gentleman, who laboured under excessive dilatation of those veins. The appearance of the disease is certainly very different from that delineated in plate iii. fig. i. and in plate ii. fig. i; the first representing a case of internal, and the second, a case of external hemorrhoidal tumours. The gentleman from whom the drawing alluded to was taken, never lost any blood from the anus, and only experienced inconvenience from the impediment created by the venous mass, to the evacuation of the feces. The dilated veins could be easily felt, not only through the skin, but also through the mucous membrane, even above the edge of the internal spincter.†" 198.

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* Vide pp. 307–8.

We would observe, in reference to these remarks of Dr. Bushe, that we have seen decided varices of the hæmorrhoidal veins *at* the anus, in dead bodies—that we have seen a dilated hæmorrhoidal vein lead to a small tumor, apparently, a varyx, containing solid coagulum *at* the anus—and, finally, that the analogy of the veins of the extremities would render it at least probable that hæmorrhoidal tumors may frequently be dilated veins, filled with coagulum, and more or less inflamed. The question is, however, a more open one, than many surgeons may, perhaps, have thought it.

Treatment of Hæmorrhoidal Affections.—We shall describe the treatment of hæmorrhoidal congestion, and of its consequences, very nearly in the order and in the circumstantial manner, in which we described those conditions themselves.

A. *Congestion.* When symptoms denoting repletion of the vessels of the rectum exist, we ought to direct the bowels to be evacuated with castor oil, or some other mild cathartic, then, a dozen of leeches to be applied to the anus, and after they have been removed, a warm hip bath. This may or may not produce the hæmorrhoidal discharge. In either case, it usually relieves the congestion.

B. *Hæmorrhage.*—When moderate it requires no special measures. We have found small quantities of cold water thrown up as an injection *after* the morning stool, of service. When the hæmorrhage passes a certain point, it becomes a substantive evil of consequence. The bowels should be regulated by the lenitive electuary. The Ward's Paste may be given three times daily, in doses of a drachm. Some persons become feverish and uncomfortable under the use of this medicine. Dr. Bushe says that, in such cases, four ounces of lime-water ought to be injected into the rectum every morning and evening, and retained as long as possible. When the patient leads a sedentary life, he should take exercise, by which the secretions will be increased, and the circulation equalized. Dr. Bushe knows a studious gentlemen, who suffers much from the hæmorrhoidal flux in the Winter, but in the Summer, when he travels, the bleeding ceases. The diet ought to be plain and moderate.

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* "See an Essay on Phlebectosis, by George Bushe, M. D., Medico Chirurgical Bulletin, vol. i. p. 230. New York, 1831.

† "M. Petit relates a case, in which the patient sunk under hæmorrhage from the rectum. On dissection, he says, "je trouvai le foie peu goufié, mais dur; les veines mésentérique, spléniques et autres, qui forment la veine—porte, étoient considérablement dilatées, parce que le troue étoit comprimé, non par le volume, mais par la dureté du foie; les veines hémorrhoïdales, depuis l' S du colon jusqu' au sphincter de l'anus, étoient variqueuses, crevées et ulcérées dans l'interieur du boyau; les bords de plus d'une trentaine de ces ulceres, le boyau même, dans presque toute son étendue, etoiént durs et calleux." (Traité des Maladies Chirurgicales, tome ii. p. 74—5—6. Paris, M. DCC. XC.) Petit, who considered hemorrhoidal tumours as varices, employed this remarkable case in illustration of his views, and none of his followers have failed to bring it into their service; but with what justice, I leave the reader to decide."

If the hæmorrhage grows alarming, Dr. Bushe advises the following means:—ice to the perineum and sacral region; sinapisms and ligatures to the upper extremities; cupping-glasses, with or without scarifications, over the scapulæ; diluted sulphuric acid, or acetate of lead with opium internally; and, injections of ice water,—spirits of wine,—port wine,—a solution of alum, of sulphate of iron or copper in a decoction of oak bark.—tincture of the muriate of iron and water,—or, the decoction of bistort tormentil, pomegranate, nut galls, &c. Dr. Bushe makes no mention of a quack remedy—Ruspini's styptic. Yet it has occasionally *seemed* to be of much service in the hæmorrhages. There are few cases in which we are more likely to over-rate the value of medicines, than we are in cases of hæmorrhage. They so frequently stop from the action and influence of the natural processes, that medicine often get unmerited credit. If Ruspini's styptic sometimes answers, we have seen it much more often fail.

"Some authors," continues Dr. Bushe, "have recommended bleeding in the arm; but I cannot add my assent to this practice, for though I am ready to admit that it diminishes the nervous agitations, renders the disposition to metastasis less easy by emptying the vessels, and tends to draw the blood to the superior part of the body, I am disposed to think that a patient reduced by the hemorrhoidal flux, has got no blood to spare. In the early stages of the flux, when the vital forces are exalted, this objection will not hold good, but at such time phlebotomy would be a highly improper remedy, for, as I have said before, it is only when the hemorrhage is profuse that we are justified meddling with it.

When the hemorrhage has continued so as to exhaust the patient by slow degrees, and has assumed more or less of a passive character, we ought to administer the sulphate of quinine and sulphuric acid, or some chalybeate preparation, with great caution; but most advantage will be derived from sea bathing. I have seen a few cases, in which much improvement took place during a course of ferruginous waters.

If the bleeding proceeds from tumours, they ought to be removed." 178.

c. *Internal Tumors.*—When the tumors are extremely painful, Dr. Bushe recommends their being anointed three or four times daily with an ointment of opium. The appalication of a stream of cold water has been useful. When the sphincter is spasmodically contracted, the ointment of belladonna is of service.

"Should the tumours be inflamed, leeches ought to be applied to the surrounding parts, and followed by tepid cataplasms. Some authors have recommended scarifications, but, I cannot approve of this practice; firstly, because I have seen much annoyance, and never any good, arise from them; and secondly, because the principle upon which they have been recommended is erroneous, viz.: that as piles are dilated veins, their puncture ought to afford much blood, and thus disgorge the vessels of the rectum. When they descend, and the surrounding parts are relaxed, we may advantageously use the ointment of galls. In consequence of pain, it may be advisable to add opium. or of spasm of the sphincter, belladonna to this ointment; and should there be ulceration and fungous asperities on their surface, the super-acetate of lead will prove a useful addition, in the proportion of half a drachm, or even a drachm, to an ounce.

Where the spasm of the sulphate of zinc, in half a pint of water, to be injected every morning after defecation, and in the evening a steel bougie to be passed a few inches into the bowel, and kept so for half an hour. This plan has in some instances answered very well, and on the whole, appears to me much more useful than it was esteemed by those who first tried it." 180.

If, in spite of all these means, the tumors continue to give rise to severe symptoms, or to hæmorrhage, and if, on mature consideration, there is nothing in the local or the general circumstances, deemed calculated to render an operation unadvisable, this step should be resorted to. We say, on mature consideration, for this operation is, after all, not free from immediate or remote hazard, and should not lightly be undertaken.

There are two leading modes of performing it;—by excision—or by the ligature. The dispute on the comparative advantages of the two methods has run high. The opinion of the profession in general may be safely said to be now settling down to the superiority of the latter. The experience of both the authors before us leans to the same side, and to give greater weight to a probable and general conclusion we shall quote individually their sentiments and practice.

Some surgeons, says Dr. Bushe, prefer excision, and others the ligature. Those who advocate the former, say that there is no danger of hæmorrhage, that it is more readily executed, attended with less pain, and followed by a more rapid recovery, than when ligatures are applied; but above all, that it is entirely free from phlebitis, tetanus, and peritonitis.

Dr. Bushe then takes up the argument, and thus weighs the reasoning on the one side and the other.

"That it," (excision) "is more easily and quickly executed, I am ready to admit, though it cannot be denied that the operation by ligature is simple enough, and far from being tedious. Perhaps, also, it may be somewhat less painful, but in this respect there cannot be much difference, when the ligatures are properly applied. That it is followed by a more rapid recovery, I deny. As to the occurrence of phlebitis, I have never seen a case, nor am I acquainted with one on record. The dread of this consequence has arisen in the minds of some French authors, because they set out with the preconceived idea that these tumours were varices, and then, reasoning from analogy, they arrived at a conclusion which is not tenable. An author, therefore, instead of quoting cases of inflammation of the veins of the leg, from ligature of the saphena, to illustrate the consequences arising from tying hemorrhoidal tumours, ought to have read some of our English authors, who, though they agree with Briquet, Danse, and others, as to the occurrence of inflammation in some cases of ligature of the saphena, have, at the same time, demonstrated that the extremities of this vein are much less liable to become inflamed than its trunk, in consequence of external violence. Mr. Kirby has given a case in which tetanus followed the operation, and in the same manner, I could cite two fatal cases of this dreadful disease.

one of which succeeded to a thorn in the heel, and the other followed a very slight abrasion of the skin. It is very much to be regretted that the opponents of the method by ligature have not, like Mr. Kirby, quoted cases, instead of making assertions: such a paucity of facts, therefore, is not likely to have much weight with an impartial surgeon. As to peritonitis, I know of no case on record *in which it was proved by dissection.* Indeed, the occurence of this disease, as a consequence of the tying piles, was stated by Petit, who related two cases, in which, after the operation, the patients were seized with symptoms resembling those of strangulated intestine, to wit, nausea, vomiting, hiccough and abdominal pains. One of these patients recovered, and the other died on the second day, but as no examination of the body was made after death, we are not justified in drawing any conclusion from it. That it was a case at all fitted for operation, we do not know, and, however probable, it may be questioned, whether the fatal attack, whatever it may have been, was the result of the operation.

That excision is not likely to be attended with hemorrhage I deny, for I have performed the operation several times, and after it, have had to tie up arteries, plug the rectum, and in one instance to apply the actual cautery. Indeed, I so nearly lost two patients, that when left to my own choice, I no longer have recourse to this operation. In the cases I have operated on, the hemorrhage has never been alarming during the operation, but in one instance, and in it, I was compelled to make firm pressure with the two first fingers of my left hand, for a considerable length of time, a procedure which appeared necessary to prevent a most frightful hemorrhage. Generally, however, after these operations, the hemorrhage does not occur for a few hours, then, the patient who may have been perfectly comfortable, becomes anxious, restless, and is seized with rigors, spasms of the extremities, cold perspiration, sickness of the stomach, swelling and tension of the abdomen, particularly in the left iliac fossa, and colic pains. His pulse becomes small, frequent and irregular; his respiration anxious; his countenance pale; he is vertiginous, and faints. All this time, the blood is accumulating in the colon, and he may die without discharging it; but frequently the tenesmus is so great, that he goes to stool, evacuates large clots of blood, faints, and sometimes dies. More commonly, however, the discharge, if it takes place in the recumbent position, brings relief; but, after some time, the hemorrhage returns, and in this way some patients have died.

From what I have now said, it will appear that excision of hemorrhoidal tumours, is far from being a safe operation. Indeed, we cannot free it from the danger of hemorrhage, unless we touch the cut surfaces with the actual cautery as recommended by Dupuytren, and I have no hesitation in saying that this is a barbarous proceeding, and one that ought not to be adopted since we posses a certain and comparatively safe remedy in the ligature." 184.

Mr. Syme's sentiments are substantially the same as those of Dr. Bushe. He admits that excision is the quickest and the easiest mode of removing the tumors, but it is exposed to the fatal disadvantage of being liable to give rise to serious hæmorrhage. Sir A. Cooper, it is well known, has related several disastrous cases. Other surgeons have not been so candid, but it does not follow that they have been more successful.

"Before," says Mr. Syme, "my own views were settled as to the best means of treating the disease, I on one occasion cut away an internal hemorrhoid, which was partially protruded, and found it necessary to employ manual pressure for several hours to restrain the bleeding that followed. In another case of the same kind, I succeeded in securing the vessels by ligature." 73.

Mr. Syme, then, is opposed, as the majority of surgeons are, to the operation of excision. It is not likely, that, when patients are properly acquainted with its dangers, they will strongly insist on its performance. Yet it is possible that, under some combinations of circumstances, excision may be not only proper but necessary. The surgeon should be aware of the manner of performing it. Dr. Bushe details it.

The bowels having been gently moved with oil or an enemata, the patient should sit over warm water, and strain until the tumors are prolapsed; then, placing himself sidewise on a couch opposite the window, with his knees drawn towards the chin, an assistant separates the buttocks, while the surgeon with a polypus forceps in the left hand, and a long curved scissors in the right, seizes and excises the tumors one by one, taking care not to include any of the surrounding mucous membrane.

Bleeding is the thing to be apprehended. The surgeon should, therefore, be prepared for it. The directions for its arrest supplied by Dr. Bushe are the following.

If the bleeding be profuse, the operator should introduce his finger, and desire the patient to contract the sphincter as closely as possible, so as to compress the bleeding vessels. In a short time, the finger may be withdrawn; but, it will be prudent to elevate the hips, and apply small bags of ice to the anus. If the hæmorrhage recurs after a few hours, the anus ought to be dilated with a speculum, and if possible, the bleeding vessel or vessels secured with ligature; but, if we cannot accomplish this, the cut surfaces should be touched with the actual cautery. Some patients, however, will not hear of this means of security, and under such circumstances we are compelled to resort to compression.

> "With a view to accomplish this in the most unexceptionable manner, I would recommend the use of the following instrument, which I had constructed for suppressing hemorrhage after lithotomy. This instrument is seven inches long, tubular, about as thick as a swan's quill, terminated with a button at one end, to facilitate its introduction, and with a stop cock at the other. One inch from the stop cock, and half an inch from the button, there are two projecting rings, and on the proximal side of the distal ring, the tube is perforated by a number of holes. Finally, a portion of intestine is bound by means of waxed silk, on the tube, behind the rings. This instrument should be introduced and then inflated. In some little time we can let off the air, and withdraw the instrument, provided the hemorrhage has ceased; but, if we find that it returns on the removal of the pressure, we must again inflate the intestine." 186.

Petit introduced a sort of bag into the rectum, and stuffed it, when in the bowel, with lint. By this means, he could compress the parieties of the gut, and, by unstuffing the bag, withdraw the plug when he pleased. Dessault made use of a nearly similar contrivance. Dupuytren makes mention of another, similar in principle, and occasionally put in practice by other surgeons;—it is the introduction into the rectum of a pig's bladder which is subsequently stuffed with lint. We are inclined to think that the stuffing of some bag, be it bladder or what not, with lint or tow, is more likely to answer than its inflation with air, in the mode advised by Dr. Bushe.

Mr. Syme alludes to another plan which has been proposed, but is open to the objections that he urges. The proposal, in question, has been to transfix the base of the protruded part with pins, to prevent the raw surface from being drawn within the sphincter until the bleeding ceases, or is arrested by ligature. But it is to be feared that the hæmorrhage, though prevented so long as the part was kept tense by the pins, might occur after their removal, unless they were allowed to remain until the orifices were sealed up with lymph, which could not be done without the risk of exciting inflammation and constitutional disturbance.

After the operation, the patient ought to be confined to arrow root, barley water, and such nourishment. If he suffers pain, or is restless, it will be necessary to administer morphine, and mental excitement should, if possible, be prevented. On the third day an enema, consisting of gruel and oil, should be given, and repeated every second day until the parts heal.

Dr. Bushe does not seem to us to dwell sufficiently on the necessity for clearing out the bowels well before the operation, in order that they may not be disturbed after it. If they are properly evacuated beforehand, a dose of opium or of morphine may be given immediately afterwards, with the effect of soothing pain, relieving spasm, and diminishing the chance of mischief.

We turn to the operation by the ligature, admitted by most surgeons to be much the best.

If, however, the operation by the ligature does not carry with it the dangers of hæmorrhage, may it not have some of its own? It has been alleged to entail such danger in inflammation spreading from the strangled parts, and either terminating fatally, or causing extensive suppuration and sloughing in the neighbourhood of the anus. Mr. Syme thus meets and disposes of this objection.

> "The seeming resemblance," he says, "between the condition of an internal hemorrhoid, to which a ligature has been applied, and a strangulated hernia, makes it appear likely that this effect would follow the operation; but experience teaches, what a more careful analysis of the cases would lead us to expect, that the bad consequences thus anticipated do not really present themselves. In a stangulated hernia, the circulation of the protruted parts is not entirely obstructed, but merely impeded, so as to cause inflammation, with its usual local and constitutional symptoms, aggravated by the importance of the affected part; while a hemorrhoid subjected to the ligature is completely detached from any share in the vital action of the system, which, consequently, cannot be influenced by its condition. Accordingly, however similar the two cases may appear at first view, their results prove very different; and I feel warranted, after very extensive employment of the ligature, to state, that it may be used without the slightest risk of serious or alarming inconvenience.
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> In order to account for the bad consequences which Mr. Copeland and others have related as occasionally attending the use of the ligature, it will be sufficient to remark, that if the threads are not drawn tight,—if such large portions of the morbid texture are embraced by them as to prevent the degree of compression requisite for preventing altogether the circulation through the tumours,—or if the whole of the disease is not included, disagreeable effects may not improbably ensue. Sir A. Cooper has advised that the ligatures should not be drawn tight, with the view of lessening the pain caused by them. But, with all deference to his high and justly esteemed authority, I feel no hesitation in stating, that though the suffering of the patient may in this way be rendered less severe in the first instance, it will ultimately be much greater, as well as more prolonged, and attended with more danger of spreading inflammation, than if the strangulation had been completed at once. To obviate this objection, it has been proposed to cut away the tumours, immediately after they are tied, close or near to the knot, which method, it is obvious, must be attended with another danger, since the ligature, when thus left unsupported, will be apt to slip off, and permit the vessels to bleed. If the threads are drawn tight they will not readily quit their hold; but in this case no advantage can be derived from removing the

strangulated parts, which then cease to maintain any living action, and very soon collapse into the form of flaccid bags." 78.

There can be no question that the operation by the ligature is, on the whole, a very safe one. Yet no operation is absolutely safe. We saw a patient die from abscess in the pelvis after the tying of internal hæmorrhoids. The ligatures were drawn very tight. Dr. Bushe adds his testimony to the safety of the operation in general. He says he has performed it upwards of a hundred times and never seen a bad symptom follow it.

Mr. Syme continues:

> "I thought at one time that the best plan of proceeding with the ligature was to include at first only a part of the disease, with the view of avoiding any risk of exciting more irritation than the part or patient could safely bear; but I am now persuaded that by doing so much more pain and danger of undue excitement are occasioned than by the summary process of tying all the tumors at once. In illustration of this I may mention the case of an eminent provincial practitioner whom I attended with Dr. Abercrombie. He had long suffered from the bleeding of internal hemorrhoids, and was at length reduced to a state of extreme exhaustion. From being a strong muscular man, he had become a feeble emaciated invalid, unable for any exertion of body or mind, with the waxy look, frequent small pulse, and headache in assuming the erect posture, which characterize the state arising from continued depletion. As the tumours were large and numerous, I commenced the treatment by tying one of the smallest, with the view of ascertaining what degree of freedom might be used with the remainder. The ligature separated at the end of two days, but the other excrescences swelled and protruded from the anus to the excessive distress of the patient, who described his suffering as intolerable, and alarmed the neighbours by his cries. As his pulse suffered little alteration in frequency or hardness, and his belly continued free from pain, no great apprehensions were entertained as to the result. The inflammation accordingly did not extend beyond the limits of the diseased growth, the whole of which mortified and sloughed off, leaving the patient completely freed from his complaint, though at the expense of much more suffering than had been anticipated.
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> It is not difficult to explain why a partial operation should produce such effects. The morbid texture of the hemorrhoidal tumours, like all other formations not entering into the original constitution of the body, being hasty and violent in its disposition to excited action, readily inflames when injured, and suffers more acutely than the natural textures. The slightest excitement is apt to make it swelled and painful, and when it is partially subjected to a tight ligature, inflammation so intense as to destroy its vitality may be occasioned, while, if the whole be included the separation takes place, not indeed without some uneasiness, but certainly without any of a serious or alarming character. On the same principle any operation attended with local irritation in the neighbourhood of internal hemorrhoids, is apt to be followed by troublesome consequences from their excitement. A gentleman came under my care for *fistula in ano* with this complication. I advised that both complaints should be remedied at the same time, to prevent the irritation caused by an operation for one of them, from injuriously affecting the other. The patient, however, persisted in requiring the fistula to be cut by itself in the first place, which was done, and followed by a very distressing paroxysm of the hemorrhoidal disease. He returned to the country to recruit his health, and came back some weeks aftewards to have the excrescence removed. Another patient came lately above a hundred miles' distance to be operated upon for fistula, and made no mention of any other ailment. I performed the necessary incision, and a day or two afterwards was surprised to see a large internal hemorrhoid protruding from the wound. He then told

me that he had long suffered from bleeding piles; and I expressed my regret that this communication had not been made sooner, as both diseases might have been remedied together, with less inconvenience than he was then subjected to. It happened fortunately that the information proved so intense as to destroy the tumour, which slouged off, so that the recovery was completed without any farther operation, but certainly, as in the last case, with much more pain and confinement than if the hemorrhoid had been tied when the fistula was cut. Still pursuing the same principle, when any pendulous folds of skin are observed to surround the anus in a case of internal hemorrhoids, I should advise them to be removed with the scissors at the same time the ligatures are applied, lest they inflame and prove troublesome in consequence of the neighbouring irritation." 82.

Dr. Bushe coincides with with Mr. Syme in advising the removal of all the tumours and not in their extripation by instalment. He has not seen any bad consequences from the wholesale operation. But when he wishes to *moderate, not to check* the hæmorrhage, he only removes one or two tumors.

Dr. Bushe, too, agrees with the majority of surgeons, in advising that the ligatures should be tied tight. He considers the dread of pain as fanciful.

Dr. Bushe has invented some instruments for the purpose of facilitating the performance of the operation. He declares that he has used them with much satisfaction. Those instruments are—a forceps for seizing and bringing forward the tumors, needles of different sizes, needle carrier, and forceps for removing the needles.

The forceps is six inches in length, shaped like that used for dissection, except that its blades, which are gently curved, terminating in two prongs, one sixteenth of an inch apart, and bent inward for one quarter of an inch, so as to overlap each other. The blades are furnished with a graduated clasp, about two inches from their extremities, so that when pressed together, they remain shut, and consequently keep their hold.

The needles vary in length, from half an inch, to an inch, but are of the same breadth and curve. In each the hole for receiving the ligature is about a quarter of an inch from the point, and the other extremity, for nearly the same extent, is reduced one half; so that it may fit into a socket intended for it, in the needle carrier.

The needle carrier is eight inches in length, and formed like a dissecting hook, save at its distal extremity, which is considerably thicker, less curved laterally, with a socket in its extremity for receiving the needle, and a bracket on its most convex part for supporting the ligature. Besides these differences, it is also gently bent forward.

The forceps for withdrawing the needle is like the common dressing forceps, except that the blades are curved, so as only to touch at their extremities, which are so scooped out as to accommodate the needle.

Such are the instruments used by Dr. Bushe. The following is his mode of using them:—

The patient being placed in the same position, with the tumors prolapsed, and the buttock elevated by an assistant, as in the operation for excision, the operator seizes the largest tumor with the forceps, and bears it downwards; then, with a needle, long or short, according to the size of the tumor, armed with a strong double ligature of three twist silk, and secured in the needle carrier, he transfixes the centre of the tumor. All this can be expeditiously accomplished, without entangling the needle in the surrounding parts; because, the convex portion of the needle carrier, being alone opposed to the prolapsed parts, it pushes them out of the way without injury, and thus makes room for the ascent of the needle, so that we can see precisely where to enter this point. The needle should now be seized with the second forceps, withdrawn, and cut off. Each half of the tumor being tied as firmly as possible, all of it, save a small portion in front of the ligatures, ought to be cut off with a curved scissors. The other tumors should be treated the same way in succession, and finally, the ligatures being cut off, half an inch from the knots, they ought to be returned, together with the protruded membrane, and remnants of the tumors, within the sphincter.

It will be observed that Dr. Bushe is in favour of the removal by excision, of a large portion of the pile, after it had been tied. Mr Syme imagines that the ligature will then be apt to slip. But it is clear that if the base of the pile has been transfixed, and either half tied separately, the ligatures cannot slip unless the whole pile is removed, which it should not be. We have tied and we have very often seen piles tied in this way, and we must confess that we have never seen the ligatures slip off. Nor, we repeat, is it possible that they *can* do so, unless the surgeon actually cuts down to them.

Mr. Syme's method of operating differs from that of Dr Bushe, on account of his not employing any peculiar instruments. His mode is this:—

When the operation is to be performed the patient should take a dose of castor oil, so as to evacuate his bowles previously to it, as they had better not be moved for forty-eight hours afterwards. The hæmorrhoids having been fully protruded by a sufficient degree of straining, the patient either stoops forward, resting with his arm on a chair or table; or if a female, lies on one side with the limbs drawn up, so as to expose the parts concerned. The surgeon then introduces the fore-finger of his left hand within the sort of ring which is formed by the morbid growths, and, keeping it there as a guide, transfixes their roots in succession with a needle and double thread, directed from without inwards through the centre of each close to the base. The ligatures, which should be waxed silk of proved strength, are next to be tied as tightly as possible, each of course including the half of a tumor. Their ends are then cut away as near to the knots as may be, without endangering their security: and the protruded parts are lastly pressed gently back within the sphincter.

Neither Dr. Bushe nor Mr. Syme takes notice of a mode of rendering the application of the ligature more effectual, which, trivial as it may seem, is not useless. The ligatures having been tied in a single knot as tight as possible, the pile should be punctured. Its fluids escape, it shrivels, and the ligatures then admit of being drawn tighter, and the knot doubled as usual. When this has been done a portion of each pile may be snipped off, the ends of the ligature removed, and the protruded parts returned within the sphincter.

The treatment of the patient subsequently to the operation is, of course, not to be neglected.

Mr. Syme remarks, that the pain resulting from the application of the ligature is generally considerable, especially at first, but commonly subsides gradually in the course of a few hours.

"Want of sleep," he continues, "is frequently one of the effects produced and is sometimes so distressing and prolonged as to excite serious alarm. It is accompanied with nervous excitement, rendering the patient restless, more or less incoherent in his ideas, and wild in appearance. The pulse is seldom much affected, and when it does suffer disturbance, merely becomes quicker without any of the hardness which denotes an inflammatory state of the system. The bowels are constipated, so as not only to cease evacuating their contents spontaneously, but to require laxatives of greater power than is sufficient in ordinary circumstances. Difficulty of making water, sometimes amounting to complete retention, and requiring the catheter to be introduced, very frequently occurs, but seldom continues beyond the first twenty-four hours. In two cases I have found it last for nearly a fortnight. When the patient goes to stool a day or two after the operation, there is either no protrusion at all, or a much smaller one than formerly, and in general no bleeding. Little inconvenience is experienced after the unpleasant effects immediately consequent upon the operation have subsided, until the ligatures separate, which is usually about the end of a week; when a painful feeling is often complained of in the raw surface left by the sloughs, and a little blood is occasionally discharged along with the evacuations. Soon after this the irritated parts regain their natural condition, and all the disagreeable symptoms which proceeded from the disease, as well as those caused by the operation, completely disappear." 86.

He recommends that, an opiate, containing thirty or forty drops of the solution of muriate of morphia, should be administered to the patient if he complains of pain, and be repeated from time to time if it continues severe, or a somewhat larger dose may be injected into the rectum with a teaspoonful or two of warm water. Fomentations may at the same time be applied to the anus. And if, notwithstanding the use of these means, much suffering is still experienced, the hip-bath of poppy-head decoction should be employed. The retention of urine if slight may be relieved by giving the *Spiritus Ætheris Nitrici*, or the camphor mixture; and if more obstinate, will require the catheter to be introduced occasionally as long as it lasts. The patient should restrict himself to the antiphlogistic regimen, and drink freely of simple diluents, such as barley-water or linseed tea, to lessen the acrimony of the urine. He should also confine himself to the horizontal posture until the ligatures separate.

Dr. Bushe prescribes a dose of morphine after the operation—a warm bath, if requisite—on the third day, an emollient lavement, and, after, its operation, a small opiate enema—the patient now to lie on a couch, to take more substantial nourishment, and to walk about his chamber—on the fifth day, the enemata to be repeated, and the patient to walk out, if the weather is fine. If the ligatures do not come away in a week, they should be pulled gently, daily, till they separate. After their removal, the anus may be besmeared with diluted acetate of lead ointment, or four ounces of a weak solution of the sulphate of zinc may be injected three times a day, and retained as long as possible.

We must say that we prefer, Mr. Syme's after-treatment to that of Dr. Bushe. We cannot deem it prudent to direct the patient to walk out, before the ligatures have separated. The horizontal posture is the best until their separation has occurred.

D. *Venous Hæmorrhoids.*—Our readers will remember Dr. Bushe's opinions on the nature of this form of hæmorrhoidal tumor. He believes it to consist of blood extravasated into the cellular tissue, and enclosed in a cyst, formed by that membrane condensed. His treatment is essentially founded on this view, is simple, and, he says, successful.

> "When they are not attended with much pain, the horizontal position, low living, gentle cathartics, emollient fomentations and poultices, will be sufficient for their removal. If, however, the pain be considerable, in addition to the means now recommended, we ought to apply a few leeches; but, should there be but one large and elastic tumour, the better practice will be to lay it freely open, and then, with the scooped extremity of a director, turn out the clotted blood. This operation never fails to give relief, and prevents the formation of matter. Some years ago, I attended a Scotch gentleman, who had just arrived from the West Indies, and had one of these tumours, as large as a hickory nut, on the verge of the anus, extending for half an inch within the sphincter. I ordered him castor oil, forbid all nourishment except gruel, and enjoined the horizontal position. In the evening, he had not improved, and therefore, I recommended leeches, fomentations and poultices. On the next day the leeches were repeated, but notwithstanding, the tumour suppurated. About three months since, a full habited merchant, just arrived from Rio, went to shoot on Long Island; but was compelled to return to town, in consequence of considerable swelling of the side of the anus. He sent for me, and on examination, I discovered just such a tumour, as that under which the Glasgow gentleman laboured, save that it was rather larger. I immediately laid it open, and turned out the coagulated blood. So sudden and perfect was his relief, that on the same day, without my knowledge, he dined out, and took his wine as usual. The relation of these two cases, will show, I hope in a pretty clear light, the advantage of incision, when these tumours, are large, tense, and painful.
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> When pendulous flaps of integument remain after the absorption of the blood, they ought to be seized with a polypus forceps, and removed with a curved scissors; otherwise, they will entangle the secretions, and in this way give rise to irritation, and finally degenerate." 195.

Mr. Syme is opposed to any operation for these tumours. Believing them to be venous he has before his eyes the fear of venous inflammation. The fears of Mr. Syme contrast with the operations of Dr. Bushe, and the good effects of the boldness of the latter would appear to prove an overcharged apprehension in the former. Yet it is only fair to him to quote his sentiments.

In regard, says he, to the treatment, the tendency of the venous tissue to resent irritation forbids any operation; and excision as well as puncture, which have been recommended, should both be carefully avoided, lest they excite inflammation of the enlarged vessels, and give it the unmanageable character which distinguishes it when of traumatic origin. Soothing measures are the most useful, such as rest in the horizontal posture, gentle laxatives, as castor oil, injections of tepid water into the rectum, and the hip-bath. When the symptoms are severe, leeches may be placed round the anus, opiate injections should be employed, and lotions, containing acetate of lead with opium, applied to the inflamed parts. By these means the paroxysm is subdued in the course of a few hours, or days at the farthest; and by care afterwards in guarding against the causes of excitement, future attacks may either be prevented or rendered less distressing.

E. *External Hæmorrhoids.*—Every one admits that when these require an operation, excision is the proper one. They may easily be snipped off with curved scissors. The blades of the scissors should be directed from the circumference towards the centre of the anus, in order to get at the root of the tumors without taking away any sound skin. The best time for the performance of the operation is when the hæmorrhoids are in a quiescent state; and it should always be insisted upon when they are present in a case requiring any other operation, since unless removed previously, or at the same time, they would be apt to suffer from the irritation, and, by adding the complication of inflamed piles, greatly increase or prolong the patient's sufferings.

Mr. Syme remarks, that while the hæmorrhoids are suffering from inflammation, excision may still be practised, and it should be resorted to if the patient is willing to endure the pain that attends cutting in this state, in order to get speedily relieved from the complaint. If it be thought better to delay the radical cure until the parts get into a condition more favourable for its easy performance, the same soothing means that have been already mentioned as proper in the cure of inflamed venous hæmorrhoids should be employed.

Mr. Syme alludes with becoming reprobation to the proposal of tying external hæmorrhoids—and with contempt to such applications as the unguentum galiorum, &c. The best palliatives, he says, are attention to regimen the use of gentle laxatives, such as sulphur with cream of tartar, and Ward's paste, which in all diseases of the rectum attended with relaxation has often a remarkably good effect.

The use of the cold water lavement has always seemed to us more effectual than any other single, or even than many other remedies. The mode of employing it which we have found best has been, to direct the patient to throw up a pint to a pint and a half of cold water after breakfast, about five minutes before a stool is sought for. When this has been voided the patient should throw up from two to four ounces of water and retain it. This and the regular use of the cold water bidet, have, in our experience, been highly serviceable in most cases of hæmorrhoids, external or internal.

We would say a word on the Ward's paste. It has always appeared to us that this does not suit persons whose bowels are disposed to be confined, and who are apt to be feverish. We have found the paste disagree with such persons greatly, however combined with laxatives, or other means calculated to ward off pyrexia.

F. *Mucous Discharge.*—If this is the direct result of inflammation, it ought to be treated on general principles. When chronic, and conjoined with tumors, *they* should be removed. The bowels should be regulated by means of gentle aperients, and appropriate tonics, with exercise, pure air, &c. should be prescribed. The local application of astringents may be useful, and the nitrate of silver is of service.

This completes our account of hæmorrhoidal affections, an account which, however long, is not longer than is commensurate with the practical importance of the subject. We proceed to—

II. PROLAPSUS OF THE RECTUM.

A. *Forms of the Disease.*—Dr. Bushe observes that there are two. In one the mucous membrane is alone prolapsed; whereas, in the other, all the coats of the rectum come down. The first is by far the most common, in consequence of the great extent and loose connexion of the mucous tunic, while, the firm union of the intestine itself, with the surrounding parts, the longitudinal direction of its strongest and most numerous fibres, together with the action of the levatores ani muscles, offer much resistance to [the descent of the entire gut.

Mr. Syme takes a view which differs, in some respects, from the preceding. When only the mucous membrane is prolapsed, he refers the disorder to the head of hæmorrhoids. When all the coats are involved, he terms it "prolapsus ani."

> "In this restricted sense," he proceeds "prolapsus ani consists of a tumour generally round or oval, but sometimes cylindrical, varying in size from that of a small egg to that of the largest orange, exhibiting the slimy surface of a mucous membrane, and affording a copious secretion of very similar appearance to red current jelly. It is obvious that the connexions of the lower part of the rectum must prevent it from descending, so as to present these appearances, which can be accounted for only by supposing that the higher part of the gut becomes invaginated in the portion below it, so as to project beyond the anus. In short, the derangement will be the same as that which is named Intussusception, with this difference, that in the latter case the invagination occurs higher up the intestine, beyond the reach of sight and touch. It has been maintained by some that the lower part of the rectum alone was concerned in the formation of prolapsus, the protrusion of this apparently fixed portion being accounted for by the relaxation of its coats. But this explanation does not agree with the anatomical structure, the phenomena observed during reduction of the protruded bowel within the sphincter, or the appearance which have presented themselves in cases that terminated fatally." 90.

Dr. Bushe remarks that the amount of intestine displaced varies from a fold of the mucous membrane to several inches of the bowel itself. When the mucous membrane, he continues, is alone prolapsed in the child, it assumes the appearance of a small pyramidal, red, and coiled tumor; while in the adult it is less red, and generally takes the form, either of two lateral flaps, or of a circular fold. In some of these cases, the portion of membrane thus protruded comes from the pouch of the rectum, while that within the sphincter remains *in situ.* When this is the case, we can pass the extremity of the little finger between that portion of the membrane which adheres to the internal sphincter, and that which is protruded. This form of disease may be accounted for, by the comparatively greater extent of the mucous membrane of the pouch, and its looser adhesion to the muscular coat, than that which lies within the internal sphincter. It will be observed that Mr. Syme considers prolapsus of the rectum as identical with intus-susception. He does not state very clearly what part of the bowel is invaginated. But Dr. Bushe will be seen to deny the analogy. In protrusion of the rectum, he says, we are not able to insert a probe or finger higher than the border of the internal sphincter, in consequence of the doubling down of the mucous membrane, while in intus-susception no resistance is offered to the ascent of either one or the other. It is obvious that all hangs on the point *from which* the intus-susception commences. If it is low, we reach it—if high, we do not.

The consequences of the protrusion are such as might be expected. When it is allowed to remain down, says Dr. Bush, it becomes engorged with blood from the pressure which the sphincter exercises on the veins, as manifested by its increase in size and livid colour. If it be not soon reduced, inflammation sets in, and is attended not only with great local pain, but fever, and in some rare instances, death ensues, in consequence of extensive peritoneal inflammation. In some other, and yet more rare cases, the protruding portions sloughs off, and a cure follows.

When the descent of the bowel is often repeated, the mucous membrane becomes indurated, loses its villous surface, and in some instances even ulcerates. This is more likely to be the case, when the sphincter has become relaxed from the repeated dilatation it has suffered, and there is a constant nisus causing the bowel to contract, and force out the mucous membrane. Such cases are generally hæmorrhoidal, and the persons so afflicted are miserable, as by no artificial means are they able to keep the membrane reduced for any length of time. Indeed, they can scarcely assume the erect position, cough, sneeze, or laugh, without suffering from its descent.

The symptoms vary with the amount of the protrusion, and with the vigour of the system; they are usually more urgent in young persons than in old.

B. *Causes.* Children and persons advanced in life are the two classes most prone to the complaint. Children are more prone to this disease, than adults, because the intestine is less curved; the sacrum is more perpendicular; the coccyx is not yet ossified, and is moveable on the sacrum; the connexions of the rectum are less extensive, in consequence of the imperfect development of the prostate, urethra, and vesiculæ seminales; the abdominal viscera are more voluminous; and finally, the mobility of the intestines is greater. In aged persons prolapsus is frequent, on account of the general relaxation of the tissues, and of the imperfect tone of the sphincter. Any thing which occasions great straining at stool may give rise to it. Thus constipation, hæmorrhoidal tumors, colitis, painter's colic, ascarides, severe cathartics, prolapsus uteri, parturition, stricture of the urethra, enlargement of the prostate gland, stone in the bladder, violent coughing, sneezing, &c., may be considered as so many occasional causes of this affection.

C. *Treatment.* It would be well if this were always as fortunate as could be wished. It admits of being naturally divided into—the reduction of the prolapsed bowel—and, the retention of it, when reduced.

a. Reduction. Dr. Bushe's directions on this head are more circumstantial than Mr. Syme's. We, therefore, extract them.

"In the treatment of prolapsus of the rectum, our first great object is to replace the protruded portion of the bowel. If recent, we may proceed to its reduction at once; but if it be engorged with blood or inflamed, leeches should first be applied to the surrounding parts, and the tumor itself fomented with a warm decoction of poppy heads. The patient being placed on his side in a recumbent position, and the buttocks separated by an assistant, the surgeon having oiled his fingers, endeavours, by a slow and steady compression, to diminish the size of the tumour, and then to push it within the internal sphincter. He should be careful not to introduce his finger within the anus, unless it be absolutely necessary: else, in withdrawing it, especially in children, a portion of the bowel will be again prolapsed. Some authors, fearing this difficulty, have with more ingenuity than practical skill, recommended the reduction to be accomplished with a distended gut, from which the air should be let out when the protrusion is replaced, and then withdrawn. Sir C. Bell recommends the points of the finger to be armed with a cone of paper, wetted at the point, and oiled on the outside; this, he says, will easily slip out, without bringing down the bowel. I can scarcely think this this will ever be necessary; but at all events, it is a very superior expedient to the distended gut. Should the sphincter be so contracted, as to prevent the return of the prolapsed portion of the intestine, the fissure knife ought to be cautiously introduced, and this muscle completely divided." 207.

The only hint which Mr. Syme offers, is—that the patient be desired not to hold his breath during the attempt at reduction, But as children are most commonly the subjects of the disorder, probably such an injunction will be frequently useless.

b. Prevention of displacement. The means of effecting this must vary, of course, with the nature of the case and of the causes. The irritation, whatever it may be, should be removed. If it occurs, says Dr, Bushe, in infants who have been too long nursed, they must be weaned,—if in children badly nourished, they ought to be well fed,—if in delicate and relaxed persons, bark, iron, cold bathing, a substantial diet, a bracing atmosphere, and regular exercise will be necessary,—if from injury or disease of the spinal marrow, this organ should be treated according to the character of the affection,—if from division of the sphincter, the introduction or extraction of foreign bodies the repeated expulsion of indurated feces, or the distention of the bowels, advantage may be derived from the injection of the infusion of galls or catechu, of a solution of alum or acetate of zinc, &c. If a stone in the bladder is the source of irritation, it should be cut out. If dentition has given birth to it, the gum should be scarified, and the ordinary remedies employed. Costiveness should be prevented by gentle laxatives; all drastic purgatives should be avoided.

Mr. Syme offers some judicious caution with regard to the habit, on the part of patients, particularly children, of straining at stool. This should be guarded against as much as possible. With this view, the bowels ought not to be evacuated in the sitting posture usually assumed by children in doing so, as it renders the pressure of the diaphram most direct upon the contents of the pelvis: and the patient should sit upon a chair so high as to prevent his feet from reaching the ground, which will keep the trunk erect, and moderate the force of the expulsive efforts. Care also should be taken to prevent him from sitting too long or too frequently at stool.

Dr. Bushe presents us with such a host of means of routing ascarides, that we are tempted to extract the catalogue. It is very hard if any are suffered to exist amid such a multiplicity of remedies.

"If ascarides nestle in the rectum, and by the irritation they create, give rise to prolapsus of the mucous membrane, or a portion of the intestine itself, we ought to inject some of the following preparations, viz: a decoction of wormwood and rue,—a decoction of chamomile flowers with castor oil and salt,—aloes suspended in milk, or rubbed up with oil,—lime-water and oil,—camphor, turpentine, or the essential oils, suspended in water with the white of egg,—sulphuret of potass in water, tincture of the muriate of iron in water,—or, tobacco smoke. Calomel and jalap, or aloetic purges, should be administered at the same time. In some few cases, they may be so numerous as to require extraction. 208.

When the protrusion depends on defective resistance of the sphincter, the great object is to augment that resistance or to find a substitute for it. Constipation of the bowels, says Mr. Syme, which necessarily leads to long-continued and laborious efforts at expulsion, should be carefully prevented by regulation of the diet and regimen; by the use of appropriate laxatives; and by the injection of tepid water into the rectum, which not only is a powerful assistant of medicines given by the mouth, but often proves sufficient to supersede their employment altogether. The enema syringe of Read, more convenient, perhaps, in its original form than any of the subsequent modifications which it has undergone, renders the administration of this means so easy and simple, that no difficulty need be experienced in its habitual use. Every patient who suffers from constipation of the bowels, and more especially all those who have any tendency to prolapsus, should be provided with the apparatus.

When the weakness of the sphincter depends upon a paralytic state of the muscle little can be done for its remedy, and a bandage must be worn to support the rectum.

But if the sphincter is not actually paralytic, but only relaxed, an operation may be serviceable, perhaps may effect a cure. Dr. Bushe thus points out the circumstances which call for, and which modify the operation.

"Should the means recommended," he says, "fail, we must proceed to a surgical operation, the nature of which will depend upon the character of the disease. Thus, when there is a considerable prolapsus, and the phincter does not appear much relaxed, one, two, three, or four portions of the mucous membrane, according to the extent of the disease, each about the size of a shilling, ought to be pinched up with a forceps, on opposite sides of the bowel, at different altitudes from the sphincter, then tied after the manner of hæmorrhoidal tumours, and finally snipped off outside the ligatures, with a curved scissors. The prolapsus should then be reduced, the patient put to bed, and a dose of morphine exhibited. On the second day, the bowels must be opened with an enema consisting of oil and gruel, and this should be afterwards repeated, as often as may be necessary. The ligatures are generally cast off within ten days, after which, the healing process goes on rapidly, and so firm does the adhesion become, that the prolapsus gradually disappears.

If the sphincter be relaxed, and the folds of fine skin at the anus elongated, an operation nearly similar to that first performed by the late Mr. Hey of Leeds in England, ought to be preferred. It consists in excising some of the mucous membrane and fine skin of the verge of the anus, so as to give rise to more firm adhesion of the remaining mucous membrane and skin, to the subjacent parts. To perform this operation, the patient should lean over the back of a chair, or else be placed in the same position as for lithotomy; then, the operator removes as many folds of the fine skin and mucous membrane, as he may think necessary, by means of a slender dressing forceps, and curved scissors. The subsequent treatment, should be similar to that recommended after the operation by ligature. In a fortnight or three weeks, the wounds will have healed, and the adhesion become so firm, as to enable the anus to support the bowel.

I have repeatedly performed both of these operations; but the latter, with the most success.

Should lateral flaps of the mucous membrane hang down, in the adult, as described at page 204, they ought to be seized with a forceps, and cut off with a knife or curved scissors; or, they may be removed with ligatures, after the manner of hemorrhoidal tumours. These cases are exceedingly common, in proof of which, I have operated on four in eleven weeks." 211.

Mr. Syme's recommendations coincide very nearly with those of Dr. Bushe.

The only additions which the former makes to the observations of the latter are the following:—The folds of skin should be held tense by a hook or forceps, and be removed from the distance of about an inch and a-half quite up to the mucous membrane, a small part of which should be included in the incision. It is not necessary to remove more than four or five of the folds. Mr. Howship has recommended the ligature, instead of the knife or scissors, for this purpose, on the ground that it excites a more salutary degree of irritation. But the pain and delay attending its use would more than counter-balance this alleged advantage, which may be compensated for by the freedom of excision.

Dr. Bushe adds a word or two on the management of the case, when the mucous membrane becomes indurated and partially ulcerated. It should be, under those circumstances, excised.

Case. Mrs. A. had been affected with protrusion of the mucous membrane for seventeen years. When she consulted Dr. Bushe, she was worn down by pain, purulent discharge, and confinement, for the moment she stood erect, the protrusion occured. She had tried all possible local remedies, as leeches, fomentations, anodyne and astringent lotions and ointments, at the same time that she took internally an endless catalogue of drugs, and gave sea bathing and sulphureous waters a full trial. On examination, Dr. B. found that the protruded membrane consisted of a circular fold, which was very hard, and in many points ulcerated. When reduced, it felt like a thick welt, or cartilaginous ring, and was immediately prolapsed by the erect position, coughing or sneezing. Dr. B. removed the diseased membrane, and a perfect cure ensued.

When the patient will not submit to the operation suited to his case, his condition may be palliated, by wearing the truss recommended by the late Mr. Gooch.*

We have now presented a complete, and, we hope, an useful practical account of two frequent, troublesome, remediable, and, therefore, important diseases—hæmorrhoids, and prolapsus of the rectum. We are sure that much of what we have extracted from the works of both the authors before us, but more especially from that of Dr. Bushe, will prove of value to such of our readers as are actually engaged in practice. We shall return to the diseases of the rectum in our next number, and we hope to present a complete series of articles upon the subject.

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* The Chirurgical Works of Benjamin Gooch. London, MDCCXCII. vol. ii. p. 150.

ON BUBO.

I. PRACTICAL OBSERVATIONS ON THE VENEREAL DISEASE AND ON THE USE OF MERCURY. By *Abraham Colles*, M. D., one of the Surgeons of Doctor Steevens's Hospital, and lately Professor of Surgery in the Royal College of Surgeons, in Ireland. 8vo. pp. 351, 1837.

II. A TREATISE ON THE VENEREAL DISEASE AND ITS VARIETIES. By *William Wallace*, M. R. I. A. &c. &c. &c. 8vo. pp. 382, London, 1833.

III. THE WORKS OF JOHN HUNTER, F.R.S.. WITH NOTES. Edited by *James F. Palmer*, Senior Surgeon to the St. George's and St. Jame's Dispensary. Vol. II. London, 1835.

IN the 53rd number of this Journal we took up the subject of Primary Venereal Sores, at least of some forms of them; and in the 54th, the number preceding the present, we devoted some pages to the consideration of the best method of administering mercury in syphilis. We stated that, from time to time, we should dedicate an article to one of the many forms which venereal maladies assume, and to the useful object of giving our less experienced readers some practical hints upon their management. We select for notice now a not uncommon and a troublesome venereal symptom—Bubo.

The authors, whose remarks will form our text, and the titles of whose works have introduced these observations, have all treated of this symptom, with more or less of circumstantiality. One, Mr. Wallace, has lately fallen a victim to Typhus, a malady which has visited the profession heavily. Although we disagreed with Mr. Wallace on some speculative and practical grounds, we must say that he was possessed of great ingenuity, and distinguished by remarkable industry. He cannot but be deemed a loss to science, and his premature death is much to be regretted.

Perhaps, the most convenient, if not the most natural method of proceeding, will be to examine in detail—the circumstances under which bubo occurs—the various forms that it assumes, and the course that it pursues—the contagious or non-contagious properties of its discharge—its treatment—and, finally, some matters connected with it which do not admit of such definite arrangement. In pursuing this plan we shall probably be obliged to dodge from one author to another, and perhaps it will not always be easy to distinguish our own observations from theirs. But this is trivial, in comparison with the object which we have in view—that of laying a connected and a practical account of this venereal symptom before the readers of this Journal.

1. CIRCUMSTANCES UNDER WHICH BUBO OCCURS.

A. Bubo being essentially an inflammatory enlargement of the inguinal absorbent glands, may result of course, like other inflammations of absordent glands, from the extension of inflammation of their inferent vessels. Common inflammation of such vessels at their origin or in their course may therefore be, and often is, a cause of bubo.

It is a matter of great practical moment to distinguish buboes of this simple character, from such as arise from the absorption of venereal poison, and must consequently be regarded as a distinct venereal symptom. But, when we turn to the authors before us, we do not find the satisfactory data we require for drawing a distinction between these affections.

Dr. Colles says little, we might call it nothing, on the subject. Mr. Wallace copies John Hunter, and Hunter himself advances opinions which, we believe to be erroneous, if not mischievous.

It is not an uncommon circumstance for the inflammation of gonorrhœa to extend from the urethral mucous membrane, to the integument of the prepuce, and to the loose subcutaneous cellular membrane. The prepuce becomes a little swollen, and rather red. From the inflamed part, a small hard cord may often be felt beneath the skin on the dorsum of the penis, stretching to the pubes, and occasionally leading to an enlarged and inflamed gland there. We need hardly say that in such a case, it is an inflamed absorbent that constitutes the cord, and that the extension of the inflammation has occasioned the enlargement of the gland. The integument usually presents a more or less distinct red streak in the course of the absorbent, as it does in the case of inflamed absorbents elsewhere. Sometimes, too, the inflammation extending from the absorbent to the surrounding cellular membrane, and, exceeding certain limits in intensity, suppuration in that cellular membrane, and one or more abscesses are the result. This, too, is what frequently occurs in inflammation of the absorbents, and need not occasion surprise.

Inflammation of the absorbents of the penis, is one of the most ordinary complications of inflammatory gonorrhœa. We see it much more frequently than inflammation of the testicle or bladder, and as its occurrence admits of an easy explanation, so it seems to be a very natural result of inflammation of the urethral mucous membrane, however that may have originated. We have always regarded this affection as simply an inflammatory one, have treated it in correspondence with such a view, and in no instance have we seen such secondary symptoms as would have shown that it depended on the absorption of a poison. On this point we can speak most positively. In a few cases of unequivocal secondary symptoms after gonorrhœa, which have fallen under our own observation, it has so happened that there has been *no* affection of either the absorbent vessels or glands.

We will now turn to Mr. Hunter. "The second mode of absorption," he says, "is more frequent than the former," (he had been talking of absorption without breach of surface or gonorrnœa,) "and it is when the matter applied has produced a gonorrhoœa; and it may happen while the complaint is going on, either under a cure or not. Some of the matter secreted by the inflamed surfaces having been absorbed and carried into the circulation, produces the same complaints as in the former case, by which means the person gives himself the lues venerea."

It will be noticed that Mr. Hunter speaks of the absorption of venereal matter from the gonorrhoœa, as a comparatively frequent cause of secondary symptoms. Yet we know that it is not. But to proceed. After observing that inflammation of the absorbent vessels or glands may be a consequence of chancres on the glans or prepuse, he goes on to state that —

"Sometimes they arise from the thickening of the prepuce in gonorrhœas, that part in such cases being generally in a state of excoriation, as was described when I treated of that form of the disease. These chords often terminate insensibly on the penis, near its root, or near the pubes; at other times they extend further, passing to a lymphatic gland in the groin: this chord can be easily pinched up between the finger and thumb, and it often gives a thickness to the prepuce, making it so stiff at this part as to make the inversion of it difficult, if not impossible, producing a kind of phimosis.

I think I have observed this appearance to arise as frequently from the gonorrhœa, when attended with the before-mentioned inflammation and tumefaction of the prepuce, as from chancres; *which, if my observation is just, is not easily accounted for.* I have observed that absorption is more common to ulcers than inflamed surfaces, or at least the formation of a bubo in the gland, and its effects in the constitution, are more common from an ulcer; but it may be remarked, that the inside of the prepuce, from whence this chord appears to arise, is in an excoriated state. It is possible that this effect may arise from the lymphatic sympathizing with the inflammation of the urethra, but I believe the affection is truly venereal; or it is possible that even the absorption of the coagulable lymph, which was produced from the venereal inflammation, and which is the cause of the tumefaction, may have the power of contamination, as appears to be the case in the cancer.

The thickening, or the formation of this hard chord, probably arises from the thickening of the coats of the absorbents, joined with the extravasation of coagulable lymph, thrown in upon its inner surface, as in inflamed veins.

This chord often inflames so much as to suppurate, and sometimes in more places than one, forming one, two or three buboes, or small abscesses in the body of the penis. When this is going on we find in some parts of this chord a circumscribed hardness; then suppuration takes place in the centre, the skin begins to inflame, the matter comes nearer to it, and the abscess opens like any other abscess.

I have seen a chain of these buboes, or little abscesses, along the upper part of the penis, through its whole length.

This may be supposed to be exactly similar to the inflammation and suppuration of a vein after being wounded and exposed.

Inflammation of the glands is much more frequent than the former, and arises from the venereal matter being carried on to the lymphatic glands, the structure of which appears to be no more than the ramifications and reunion of the absorbent vessels, by which means they form these bodies.

From this structure we may reasonably suppose that the fluid absorbed is in some measure detained in these bodies, and thereby has a greater opportunity of communicating the disease to them than to the distinct vessels, where its course is perhaps more rapid, which may account for the glands being more frequently contaminated." 359.

It is strange, or it may seem so, that a man like Mr. Hunter should overlook an obvious explanation attended with no difficulties, to grasp a remote one confused by contradictions. But, with Mr. Hunter, this was frequently the case, and we agree with one of his able editors, that the powers of his logic were not of a high kind. He found, to revert to the case before us, that, as a general law, ulcerating surfaces were more calculated for absorption than unbroken ones. On the other hand, he found that inflammation of the absorbents arose as frequently from inflammation of the prepuce in gonorrhœa, as from chancre. An ordinary reasoner would have suspected that the cause *was* the inflammation. That appears the direct and simple inference. But Mr. Hunter did not draw it, and he was evidently puzzled.

The enlargement of the lymphatic glands in gonorrhœa, is not always attended with appreciable inflammation of the absorbent vessels of the penis, nor is it limited to the pubic region. Inguinal buboes, occasionally, but, if we may judge from our own experience, not very frequently, ensue.

It will be remarked, that Mr. Hunter speaks of a "chain of buboes" along the whole length of the penis on its upper part. If we define bubo to be enlargement of an absorbent gland, than the application of the term to abscesses of the penis is obviously incorrect. Those abscesses are seated in the loose cellular membrane of the penis, and arise from the extension of the inflammation of the absorbent vessel lying in it.

B. Bubo may occur in gonorrhœa independently of appreciable inflammation or enlargement of the vessels leading to the gland. This form of bubo is usually known by the name of "sympathetic." The term would imply that the extension of inflammation, as well as the absorption of irritating matter, have nothing to do with the production of the bubo. Yet this is by no means certain. It is not uncommon for lymphatic glands to enlarge in other parts of the body, in consequence of irritation in the course of their inferent vessels, without our being able to distinguish enlargement or inflammation of the latter. Are we to suppose that, in cases of this sort, the glandular inflammation is "sympathetic," or that it results from a slight amount of extension of inflammation, or from the direct conveyance of irritating matter to the gland? This is a question very difficult of determination, and our opinions on the subject of "sympathy" are too vague, to lead us to expect its speedy solution. But, at all events, the term "sympathetic bubo" is greatly misapplied, and sometimes syphilitic, more frequently inflammatory buboes, receive this indefinite, if not erroneous, appellation.

If what we have observed is founded in truth the attempt to distinguish sympathetic from other buboes is futile. It would be better in our opinion to abandon the term "sympathetic" in its application to bubo, and to distinguish the latter as inflammatory or specific—as the result of simple irritation and inflammation, or of the absorption of a specific poison.*

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* As a sample of the confusion that arises from the use of the term sympathetic, or rather from the vague ideas of which that term is the exponent, we may quote a few passages from the work of Mr. Wallace.

"When a bubo occurs in connection with, or has followed immediately after a primary symptom, it is called by some writers a secondary or consecutive bubo.

Secondary buboes, which are to be distinguished from constitutional buboes, or those depending on contamination of the system, may arise either from absorption of the virus, or from sympathetic irritation. The former are called symptomatic, and the latter sympathetic buboes.

This last distinction, though founded in nature, is not of much practical importance, as we have no means of distinguishing with certainty the sympathetic from the symptomatic bubo. It may however be said that a bubo following catarrhal syphilis, is more generally sympathetic than symptomatic; and that a bubo is most probably sympathetic when it commences in the very earliest stage of a primary sympton, but particularly when this symptom is attended by much irritation or diffused inflammation. Whereas, if a bubo does not occur until the primary disease has been many days, or perhaps weeks in existence, and when *c.* Bubo from the absoption of a specific poison, may ensue either from gonorrhœa, or from syphilis. Whatever may be his abstract opinions on the nature of gonorrhœa, it is impossible for any man of candour and experience to deny, that it is occasionally succeeded by secondary symptoms. They constitute, it is true, the exception not the rule, but that exception is sufficiently frequent to become an object of importance. The occurrence of secondary symptoms proves, if our ordinary notions are correct, the absorption of a special poison. If our notions are correct, too, that absorption will probably take place through the medium of the lymphatics. It is consistent with reason to suppose that in such circumstances the glands on those lymphatics may be irritated, inflamed, enlarged: that, bubo, in short, may be the consequence. Yet, so far as we have seen, this deduction of reason has not been borne out in fact, and in the limited number of cases of secondary symptoms from gonorrhœa which have fallen under our own observation, bubo has not existed.

Syphilitic bubo is more frequent and of more consequence, and it is from this that the common ideas of the nature, the history, and the treatment of bubo would seem to have been essentially derived. It merits then all the attention we can give to it. We shall chiefly follow Mr. Hunter, for succeeding authors have copied his descriptions, as he probably did some of those of preceding ones.

The *time* at which a syphilitic bubo occurs is very various and very indefinite. It is not uncommon for bubo to constitute an early symptom. In the majority of such instances as have occured to us, the bubo has not attained much magnitude, and has gradually subsided with the subsequent progress of the case. In other cases the bubo has advanced, attained large dimensions, and suppurated. A not uncommon period for bubo to present itself is from the tenth to the twentieth day of the sore. The latter, perhaps, hangs fire, and the stage of granulation, or of cicatrisation is indolent. Nay, the sore may wear an irritable aspect, and appear disposed to spread. Under these circumstances budo may occur, and, when it does so, may be expected to be troublesome. Mr. Hunter makes few remarks on this subject. The following passage comprises most of what he says.

> It would appear in some cases that it is some time after the absoption of the venereal matter before it produces its effects upon the glands; in some it has

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neither the primary symytom nor the bubo are attended by much irritation or inflammation, we may, without any great fear of error, conclude that it is symptomatic. It is however to be remembered, that a bubo which was in the first instance sympathetic, may afterwards become symptomatic."

The absurdity of bandying the terms "sympathetic" and "symtomatic" in this way must be obvious. Strictly speaking every bubo is both sympathetic and symptomatic, and no bubo is singly the one or the other. Why then use terms which, if they have a definite meaning at all, have an erroneous one, and if they have no definite meaning, must mislead? The mass of mankind are governed by sounds. Names, which are but the representatives of things, become in the eye of ignorance, the things themselves, and thus error is generated and diffused. No one acquainted with the history of delusion would ask:—"What's in a name?" The records of human crime and weakness, prove that there is much in it.

been six days at least. This could only be known by the chancres being healed six days before the bubo began to appear; and in such cases it is more than probable that the matter had been absorbed a much longer time before, for *the last matter of a chancre most probably is not venereal*; and indeed it is natural to suppose that the poison may be as long before it produces an action on the parts, when applied this way, as it is either in the urethra or in forming a chancre, which I have shown to be sometimes six or seven weeks." 360.

It is certainly rare for bubo to occur, after the cicatrization of a venereal sore in a patient treated with mercury. It is so rare that we consider the patient in these circumstances, as virtually secure from it. This, at least, is the conclusion at which we have arrived from what we have actually seen.

The *situation* of a syphilitic bubo has been much insisted on by some persons. We have heard a surgeon of eminence dwell on this, and insist that syphilitic bubo occurs upon or above the ligament of Poupart, while bubo from irritation of the absorbents of the leg and thigh is seated lower down. This has not corresponded with our own observation, and it has appeared to us that the site of the bubo, from venereal sores upon the penis, is not limited to a particular portion of the groin. Mr. Hunter remarks:—

> "The situation of buboes arising from the venereal disease in the penis is, in men, in the absorbent glands of the groin; if a gonorrhœa is the cause of a bubo, one groin is not exempted more than the other; both may be affected but if a bubo arises in consequence of a chancre, then the groin may be generally determined by the seat of the chancre, for if the chancre is on one side of the penis, then the bubo will commonly be on that side: however, this is not universally the case; for I have known instances, although but few, where a chancre on one side of the prepuce or penis has been the cause of a bubo on the opposite side, which, if arising from that chancre, is a proof that the absorbents either anastomose, or decussate each other. If the chancre be on the frænum, or on the middle of the penis, between the two sides, then it is uncertain which side will be affected.
>
> The situation of the glands of the groin is not alawys the same, and therefore the course of the absorbent vessels will vary accordingly. I have seen a venereal bubo, which arose from a chancre on the penis, a considerable way down the thigh; on the contrary, I have seen it often as high as the lower part of the belly, before Poupart's ligament, and sometimes near the pubes, all of which three situations may lead to some variations in the method of cure; therefore it may be proper to attend to them.
>
> As the disease most commonly arises from copulation, the situation of buboes is generally in the groin; but as no part of the body, under certain circumstances is exempt from this disease, we find the nearest external glands between the part of absorption and the heart, everywhere in the body share the same fate with those of the groin, especially if external." 362.

We do not know why the lymphatic glands are more prone to inflame from the passage of the venereal poison than the vessels which carried it to them. We shall not mention the hypotheses that have been framed, because they are only hypotheses. But it is uncommon for any but the glands nearest to the seat of absorption to become affected. And, whether they are or are not, the secondary or ternary series of glands, placed on the lymphatic vessels nearer the centre of the system are seldem, if ever, implicated.

"We never find," says Mr. Hunter, "the lymphatic vessels or glands that are second in order, affected as those along the iliac vessels or back; and I have also seen when the disease has been contracted by a sore, or cut upon the finger, the bubo come on a little above the bend of the arm, upon the inside of the biceps muscle; and in such where the bubo has come in that part, none has formed in the armpit, which is the most common place for the glands to be affected by absorption.

But this is not universal, although common, for I was informed by a gentleman who contracted the diseas in the before-mentioned way, that he had buboes both on the inside of the biceps muscle and in the armpit. Another case of this kind I have heard of since; why it is not more common is perhaps not easily explained,

It might be supposed that the matter was weakened, or much diluted by the absorptions from other parts by the time it gets through these nearest ramifications, and therefore has not power to contaminate those which are beyond them; but it is most probable that there are other reasons for this. I once suspected that the nature of the poison was altered in these glands as it passed through them, which was the reason why it did not contaminate the second or third series of glands; and also why it did not affect the constitution in the same way as it did the parts to which it was first applied; but this explanation will not account for the next order of glands to suppurating buboes not being affected by the absorption of venereal matter. It appears to me that the internal situation of the other glands prevents the venereal irritation from taking place in them; and this opinion is strengthened by observing when one of these external glands suppurates and forms a bubo, which is to be considered as a large venereal sore or chancre, that the absorption from it, which must be great, does not contaminate the lymphatics or glands next in order, by the venereal matter going directly through them.

If this be true, then the skin would seem to be the cause of the susceptibility of the absorbents to receive the irritation. Whether the skin has the power inherent in itself, or acquires it from some other circumstance, as air, cold, or sense of touch, is not easily ascertained; but whichever it be, it shows that the veneral matter of itself is not capable of irritating, and that it requirs a second principle to complete its full effect, that is, a combination of the nature of the poison and the influence of the skin, and that influence must be by sympathy, and therefore weaker than if acting in the same part, that is, the skin itself, which perhaps is the reason why the venereal matter does not always affect those vessels and glands, while it always does the skin, if inserted into it." 361.

The foregoing quotation offers a fair instances of Mr. Hunter's frequent mode of handling a difficult or a dubious subject. Facts, reasoning, assumptions are all mixed together, and it would seem to have been an inherent mental vice not to distinguish and separate them. Where a fact seems to lead to a theory, he seldom misses the opportunity of theorizing—where a theory does not present itself so naturally, he very frequently smuggles or squeezes it in—and where a fact contradicts his theory, there is more than a solitary instance of his resolutely denying the possibility of the fact altogether.

The latter part of the passage we have quoted is a strange jumble of words, and not a very clear association of ideas. The fact he struggles so vainly to express is a simple one—the syphilitic poison, like the variolous, evinces a predilection to affect the cutaneous system. But it is by no means clear that Mr. Hunter is justified in the proposition he advances:—that "the venereal matter always affects the skin, if inserted into it." There can be no doubt that persons have inoculated themselves with venereal matter, and that no sore nor any secondary symptoms have resulted.

When we admit that the cutaneous system is particularly prone to suffer from the venereal virus, we are sure that it does not suffer exclusively. Persons who have had venereal sores, and have not taken mercury, occasionally presents, as a secondary symptom, violent pains and even decided inflammation in the deeper, as well as in the superficial portions of the fibrous system. We have seen two or three instances of periostitis of the thigh under such circumstances.

It has been supposed that syphilitic bubo is limited to one gland, and that the implication of several is evidence against the venereal character of the affection. We often find practitioners act on this idea. Yet it is certainly erroneous. Mr. Hunter, indeed, leans to the opinion, but he only leans.

> "I think," he says, "there is commonly but one gland at a time that is affected by the absorption of venereal matter, which, if so, becomes in some sort a distinguishing mark between venereal buboes and other diseases of these bodies." 360.

We quite agree with Mr. Wallace upon this point.

> "It is also because the venereal poision is deprived of its power of irritating the lymphatic system by passing through a lymphatic gland, that we generally find one gland only affected. We are not however to suppose, as some have here again incorrectly affirmed, that a bubo cannot be syphilitic if more than one gland be diseased; for should the absorbents which arise from the surface to which the poison had been applied, be so disturbed as to pass in different directions, and consequently through separate glands, a plurality of these bodies may be affected. Indeed, I have reason to believe that this is more frequently the case than is at present conjectured; for I have sometimes found, upon the resolution of a bubo, that the swelling had been formed by the tumefaction of several glands, though before it had begun to decrease, it had all the appearance of being caused by only one enlarged gland." 345.

Syphilitic bubo has been supposed to be capable of occurring independently of any primary sore. Setting aside hypothetical arguments for the occurrence or against it, the occurrence itself would seem to be established by irresistible evidence. We have seen one case, which seemed to us to be unexceptionable. We shall introduce the sentiments of the authors before us on this point.

Mr. Hunter remarks that:—

> "The first and most simple form (of absorption) is where the matter either of a gonorrhœa or chancre has only been applied to some sound surface, without having produced any local effect on the part, but has been absorbed immediately upon its application. Instances of this I have seen in men, and such are perhaps the only instances that can be depended upon; for it is uncertain in many cases whether a woman has a gonorrhœa or not. I think however I may venture to affirm that I have seen it in woman, or at least there was every reason to believe that they had neither chancre nor gonorrhœa preceding, as there was no local appearence of it, nor did they communicate it to others who had connexion with them.
>
> It must be allowed that this mode of absorption is very rare; and if we were to examine the parts very carefully, or enquire of the patient very strictly, probably a small chancre might be discovered to have been the cause, which I have more than once seen. For, when we consider how rarely it happens from a gonorrhœa, in which the mode of absorption is similar, we can hardily suppose it probable that it should here arise from simple contact, the time of the application of the venereal matter being commonly so very short. We might indeed suppose the frequency to make up for the length of time, which we can hardly

allow, for the same frequency should give the chance of producing it locally. Therefore very particular attention should be paid to all the circumstances attending such cases." 357.

Mr. Wallace observes:—

> It has been, and continues to be, questioned by many persons, whether the venereal poison can enter the lymphatic system, and produce disease in it, without having previously caused some local disease upon the part to which the virus was first applied; or in other words, whether a bubo may occur without being preceded by any primary symptom.
>
> The affirmative and the negative of this opinion are supported by different persons of equally high authority. Thus, Follopius, Hunter, Lagneau, Swediaur, Bertrandi, &c. affirm, that bubo may be a first symptom; while A. Cooper, Delpech, and many others, support the opposite opinion.
>
> I believe that cases of venereal bubo, which were not preceded by primary symptoms, have frequently occured to me. I have at least treated certain cases of bubo, which were neither accompanied nor preceded by primary symptoms, but which had followed suspicious intercourse, as if they had been caused by the absorption of the venereal poison; and I have never had occasion to regret the practice. On the other hand, I have known buboes, which were not preceded by primary symptoms, to be followed by secondary symptoms when mercury had not been used in their treatment. I am, however, ready to admit, that it is difficult, if not impossible, to decide *a priori*, whether a bubo which has occurred without previous local disease be venereal or not; and also that much mischief might result from acting without great consideration in these doubtful cases.
>
> Such buboes as are supposed to arise from the venereal poison, but which are not accompanied, or have not been preceded by primary symptoms of any kind, are often called primary buboes, and by the French *bubons d'emblee*." 346.

Dr. Colles says little.

> "The history of bubo would be incomplete were we not to mention that this symptom occasionally but rarely precedes by a few days the appearance of chancre: such cases require great caution on the part of the surgeon; he should be slow to pronounce them venereal, and he should not commence a mercurial course until the chancre has appeared: this delay cannot be productive of any bad consequence, but on the contrary will encourage both patient and surgeon to enter on the mercurial course with greater confidence as to its propriety." 111.

As there are no signs by which we may distinguish a syphilitic from another bubo, independently of collateral circumstances, it is obvious that there are no means of determining whether a primary bubo, unaccompanied by any sore, is syphilitic or not. The mere circumstance of its following connexion, is certainly not enough to justify us in pronouncing the affirmative, or in subjecting the patient to a course of mercury. It appears to us, that the occurrence of secondary symptoms is requisite to dispel all doubts and to decide the necessity for specific treatment. It is possible that a combination of circumstances *might*, in a particular case, lead very fairly to the same conclusion.

Mr. Hunter remarks that he is afraid that patients have often undergone a mercurial course when there has been no occasion for it. Mr. Hunter's ideas on the means of diagnosis do not seem to us to be satisfactory.

> It will perhaps," he says, "be difficult to find out the specific difference in the diseases themselves; but I think that such buboes as arise without any visible cause are of two kinds; one similar to those arising from chancres or gonorrhœa;

that is inflaming and suppurating briskly. These I have always suspected to be venereal; for although there is no proof of their being so, yet from these circumstances there is a strong presumption that they are.

The second are generally preceded and attended with slight fever, or the common symptoms of a cold, and they are generally indolent and slow in their progress. If they are more quick than ordinary, they become more diffused than the venereal, and may not be confined to one gland. When very slow they give but little sensation, but when more quick, the sensation is more acute, though not so sharp as in those that are venereal; and most commonly they do not suppurate, but often become stationary. When they do suppurate it is slowly, and often in more glands than one, the inflammation being more diffused, and commonly small in proportion to the swelling. The matter comes slowly to the skin, not attended with much pain, and the colour is different from that of the other, being more of the purple. Sometimes the suppurations are very considerable, but not painful." 365.

Prior to this, Mr. Hunter had thus laid down the characteristics of the genuine syphilitic bubo.

"The true venereal bubo, in consequence of a chancre, is most commonly confined to one gland. It keeps nearly its specific distance till suppuration has taken place, and then becomes more diffused.* It is rapid in its progress from inflammation to suppuration and ulceration. The suppuration is commonly large for the size of the gland, and but one abscess. The pain is very acute. The colour of the skin which the inflammation attacks is of a florid red."

When analysed, the distinctive characters of syphilitic bubo amount, in Mr. Hunter's mind, to singleness of gland attacked, and to acuteness of inflammation. For our own parts, we think these positions pregnant with danger, and we are sure that were they strictly acted on many a bubo would be aggravated, and many a man subjected to an uneccessary course of mercury.

The *progress* of a syphilitic bubo, or the states which it may assume, deserve consideration. The best account is given by Mr. Wallace, to whom we shall now turn.

Mr. Wallace assumes that there exists a form of bubo, of which all others are degenerations. He had previously assumed the very same thing with respect to sores. This stiff hypothesis led him into the extraordinary dilemma, of making gonorrhœa intermediate between the common venereal sore and phagedæna. It is unnecessary to remark, that these arbitrary distinctions, and these ideal, standards, are simply arbitrary and ideal, and have no substantial foundation in nature. The offspring of imagination and caprice, they differ with each mind that gives them birth, and there are as many standards as observers. When we quote Mr. Wallace's history of the successive phases of bubo we quote it as a history generally correct, but not as a description of a form par excellence, of which all others are deformed productions.

"A lymphatic gland, connected by its vessels with the part to which the venereal poison had been previously applied, becomes, sometimes sooner and sometimes later after the application of the poison, a little enlarged, and slightly painful on handing; so as to present the characters of a small tumour, about the size of a filbert, situated under the skin, and moveable between it and the subjacent parts.

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* "It may be observed here, that the glands and surrounding parts being dissimilar, inflammation does not so readily become diffused as when it takes place in a common part."

This moveable tumour, which at first seems to be caused solely by an enlargement of the gland, increases in a short time in size, and becomes more fixed, in consequence of the disease extending to the surrounding cellular tissue. At this period, the motions of the limb are somewhat painful and obstructed, owing to the morbid sensibility of the diseased gland, and to the diminished extensibility of the surrounding inflamed cellular tissue.

The tumour now soon forms a swelling of an oblong rather than of a rounded form, projecting in relief from the parts which surround it. The integuments are however, even yet, moveable on its surface, being apparently unaffected or uninfluenced, and of their natural colour.

After a time, the skin becomes red; and is then found to be adherent to the surface of the tumour, over which it could be previously moved, even after the tumour had become adherent to the subjacent and surrounding tissues. The bubo then for the most part increases with rapidity; the pain becomes of a throbbing kind; some degree of fever sets in, marked by an acceleration of pulse, an increase of heat, loss of appetite, imperfect sleep, with a general feeling of indisposition; and all these symptoms are more remarkable in the evening and during the night, than in the morning or during the day.

The swelling now becomes more prominent, and the skin more red and shining, while the tumour still feels hard and resisting; but in the course of a day or two this hardness decreases, and the swelling, which was at first somewhat doughy, soon affords a distinct sense of fluctuation. At this period the shining red skin covering the more prominent parts of the tumour begins to desquamate, so as to form scaly circles; and afterwards assumes a mottled livid appearance.

The livid patches quickly acquire a deeper colour, and often becomes partially black, the cuticle separates from them, and giving way, a larger or smaller quantity of thick yellowish-white matter is discharged through one or more small openings. These openings frequently present a ragged sloughy ulcerated appearance, with a red edge and cutaneous margin, and with a white pulpy substance on the inner part of the edge, as if the cavity of the bubo or the surface of the ulcer from which the pus is discharged was lined or covered by a stratum of white matter, resembling that which so frequently covers the primary sore during its stage of ulceration.

The process of destruction thus commenced in the integuments covering the tumour, extends very frequently until all that part of the skin which had been rendered very thin is removed, and until the bottom of the abscess has been so exposed, that the diseased part presents the form of an ulcer, somewhat resembling, on a large scale, the regular primary ulcer.

The process of ulceration or destruction ceases, in general, as soon as those integuments which covered the front of the tumour, and which had been very much thinned before the escape of its contents, have been removed. The ulcer thus produced is now quickly filled up by newly formed granulations, and its diameter at the same time contracting, the areola which surrounded the sore during the ulcerating stage becomes concentrated into a narrow margin, from the inner edge of which the new cuticle proceeds; and according as the healing process advances, the outer portion of this red margin acquires a callous appearance, while the inner portion forms a red line, denoting the formation of new skin." 350.

This description is, in our opinion, a very accurate one. The different stages are portrayed with fidelity, and the changes which the gland undergoes are simply and satisfactorily explained. The duration of those stages is exceedingly indefinite. We should say, that it varies especially with the constitution and the treatment of the patient. Mr. Wallace believes, that it occupies a somewhat longer period than the regular primary ulcer. We think the course and duration of the sore much more precise than that of the bubo.

Mr. Wallace observes that the bubo may be cut short in any of its stages. He remarks, too, very justly, that there is some variety in the rapidity with which the rugular bubo passes through its different stages, and in the aspect which it presents in each of them, but particularly in the fourth and fifth, or in those during which matter is formed and discharged, and the injury caused by the processes of suppuration and ulceration repaired. Thus, the integuments covering the tumour may be rendered very thin before the abscess is discharged, and the size of the opening by which it is discharged may be greater or smaller. It may in fact be so very small, that whch healed, no vestige of a cicatrix can be observed; or it may be much larger, and formed by a process of sloughing rather than of ulceration; or, after the integuments covering a bubo have become remarkably thin, its cuticle may vesicate, as if a blister had been applied, and this having been followed by a kind of oozing or sweating as it were, from the surface of the excoriated skin, the bubo may shrink, and finally disappear without the formation of any ulcerated opening whatsoever;—or lastly, the process of ulceration may continue for a longer or shorter time after the contents of the abscess have been discharged, and thus form an ulcer of variable size.

It is generally supposed that in phlegmonoid abscess, and in buboes, the process of suppuration commences in the centre of the tumour. We do not think that Mr. Wallace fairly represents the usual ideas on this subject when he states them as consisting in the belief that there is found in the centre of the bubo a small cavity, which is lined with a stratum of lymph; that purulent matter is secreted into this cavity by its lining membrane; and that the germ of the future abscess being thus formed, its extent is afterwards gradually enlarged, by a process which Mr. Hunter has called progressive absorption. We believe on the contrary that the notions of the best informed pathologists are more accurately expressed, by the description we are about to quote, and which Mr. Wallace advances as original.

> "If a phlegmonoid tumour be examined at its commencement, it will be found that its vessels contain a preternatural accumulation of blood; that there is a preternatural accumulation of lymph or serum into the interstices of the texture composing it; and that this texture is rendered much more soft and more fragile, and hence more easily torn, than in its natural state. It will also be found, that in proportion as the disease advances, the tumour becomes liquified in the centre, where the morbid action is more violent, than at the circumference; that if the swelling be then incised, the surface of the section will present an irregular cavity, filled with matter more or less fluid; that on the outside of this cavity the texture of the tumour is soft, or somewhat like a sponge, mixed with purulent matter, and in proportion as we recede to the circumference, the diseased tissue seems more firm and more vascular, and contains less of this matter.—Finally, the whole tumour becomes in time perfectly soft or liquid throughout, and the original texture, thus softened, is mixed with the fluids previously secreted into the interstices of the diseased tissue." 353.

Properties of the Discharge from Bubo. It is a question of some importance, whether the matter secreted by a syphilitic bubo is capable of conveying the syphilitic poison to other persons, or to other parts. In reference to this question, we may observe, in the first place, that, in some instances, the ulcers produced by suppurating buboes resemble very closely primary syphilitic ulcers. In the majority of cases, we should say, from what we have seen, that they do not wear this resemblance. Their presenting it is the exception, not the rule. Nor, in the majority of cases, does the discharge from the bubo contaminate contiguous parts, although, were it charged with the venereal virus, it would most probably do so.

Mr. Wallace informs us, that he has made many direct and positive experiments on this point. "I have," says he, "perhaps some hundred times, when opening buboes, inoculated with the matter discharged the individuals themselves; and, except on three occasions, I never succeeded in producing any specific effect; but on these three occasions, there resulted ulcers which presented throughout their whole course the characters of the primary syphilitic ulcer. From these experiments we are authorized to conclude, in the first place, that the matter of bubo is capacle of producing primary syphilis; and in the second place, that the inoculation of this matter very often fails to cause a specific disease."

The matter must be allowed [to rest thus undetermined for the present. A difficulty atttends the practice of inoculation with syphilitic matter. Persons not already infected cannot be got in any numbers to submit to it. Persons uninfected *may* have their susceptibility to fresh infection modified, so as to vitiate the results. Our knowledge of the laws of the contagion of syphilis is, after all, extremely imperfect.

Treatment of Bubo. All previous enquiries must centre, at length, in this. The treatment of bubo is by no means simple in all cases, and probably there are few surgeons possessed of such discrimination as not to commit some practical blunders occasionally.

Bubo, for the purposes of treatment, may conveniently be divided into three stages;—the first, that in which the bubo constitutes a small moveable tumor beneath the skin, rather tender when disturbed, but little (it must be slightly) inflamed, and unaccompanied by inflammation of the surrounding cellular membrane or skin; the second stage, that of augmented volume and decided inflammation of the bubo, with implication of the cellular membrane and skin; the third stage, that of suppuration; the fourth, that in which the bubo has become an ulcer.

In the two first stages, the object of the surgeon will usually be to effect resolution. In the third, he is anxious to open the abscess in the most favourable manner In the fourth, he wishes to heal the ulcer. Throughout all the stages he is alive to the necessity for removing, by the specific influence of mercury, the specific disease from which the bubo has resulted, and he is happy when he finds that this general indication is not thwarted by the state of the local affection. Unfortunately it, not seldom, is so.

Resolution. In the treatment of syphilis, as of gonorrhœa, it is always requisite to bear in mind, that the specific malady may be mixed up with more or less of inflammation. A certain quantum of inflammatory action is of course, an integral part of the complaint, which appears, in fact, to be essentially a modification of that action. But, if it passes a certain amount, the inflammation becomes a disease per se, and requires to be moderated by the means which are usually adapted for its moderation. It is impossible, we think, for any one to treat either syphilis or gonorrhœa successfully, who does not make this the basis of his remedial views.

If this is true of a syphilitic ulcer, it seems, a fortiori, true of a syphilitic bubo. The latter is essentially a more inflammatory affection that the former, a less direct and specific effect of the poison.

If a bubo is swelling rapidly, extremely painful, and implicating extensively and quickly the surrounding cellular membrane, that is in your opinion, sufficient evidence of excess of inflammation, and of the necessity of adopting antiphlogistic measures.

In such a case, we should advise, and we resort to the application of leeches,*—evaporating lotions, or bread poultices made with Goulard water —salines—aperients—rest. After a sufficient application of leeches we have seen much benefit from the use of blisters. They may be put upon the bubo. In many instances, we have seen impending suppuration *apparently* prevented by them.

There are no points in the practice, nor any in the theory of medicine, on which they are not wide differences of opinion. If one man recommends a poultice, another is pretty sure to denounce it. It cannot, then, excite surprise to find that some persons are averse to antiphlogistic measures in the treatment of syphilitic bubo. They contend that leeches are highly injurious. They do not affect to explain this as a matter of reason, or on the grounds of analogy, but as the simple result of experience. From this there appears to be no appeal, and all that can be done is for each man to record his experience, and to leave the issue to the accumulated observations of many. For our own parts, we must observe, that so far as we can draw correct conclusions from the facts that we have witnessed, they *seem* to be decidedly in favour of leeches, when syphilitic bubo is attended with decided inflammation. We are more disposed to lean upon our observations, as they are fortified by reason and analogy.

The superiority of warm or of cold application has been much litigated, and is still undetermined. It appears to us, that, as a general question, it is insusceptible of a decided affirmative or negative either way. In the greater number of cases cold applications have seemed to us to be most serviceable. But it has occasionally happened that the change from cold to warm applications been has productive of evident service, and different individuals seem to have peculiarities in relation to the benefit they derive from such measures.

We now turn to our authors.

Mr. Hunter distincly lays down the principle on which we have insisted. We shall shew, presently, that his remedial precepts are to be received with some degree of reservation. On this point, however, they seem unexceptionable.

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* Leeches, in these as in most cases, should be applied in the immediate neighbourhood of the swelling, rather than upon it. The object to be gained, is the drawing blood *from* the part, not *to* it. Whoever has watched the effects of leeches, must have remarked the tendency to congestion in the vessels of the part on which they have been used.

> "There are many cases in which mercury by itself cannot cure. Mercury can only cure the specific disposition of the inflammation; and we know that this disease is often attended with other kinds of inflammation besides the venereal.
>
> Sometimes the common inflammation is carried to a great height; at other times the inflammation is erysipelatous, and, as I suspect, often scrofulous. We must therefore have recourse to other methods.
>
> Where the inflammation rises very high, bleeding, purging, and fomenting are generally recommended. These will certainly lessen the active power of the vessels, and render the inflammation more languid; but they can never lessen the specific effects of this poison, which were the first cause, and are still in some degree the support of the inflammation. Their effects are only secondary; and if they reduce the inflammation within the bounds of the specific, it is all the service they can perform. If the inflammation be of the erysipelatous kind, perhaps bark is the best medicine that can be given; or if it be suspected to be scrofulous, hemlock, and poultices made with sea-water may be of service."

Making allowance for the indifferent *medical* knowledge displayed by Mr. Hunter, in considering bark as a specific for erysipelas and hemlock as one for scrofula, his general ideas are much to be praised.

In the work of Dr. Colles, the last that has been published on the subject, it appears to us that the spirit of discrimination on this point has rather retrograded than advanced. Dr. Colles does not endeavour to separate the accidental from the necessary conditions of bubo, or, rather, he does so in a very indistinct and unimpressive manner. We shall quote the brief observations of this author, that we may not, unintentionally, do him an injustice. In quoting them, however, we must state that we differ from him on two points—first, on the freedom with which he gives mercury during an inflammatory condition of bubo—secondly, on the small account he makes of local depletion and of antiphlogistic treatment generally during this same condition. With the expression of this dissent, we quote the passage in question.

> "When chancre and incipient bubo co-exist, it is admitted, that the treatment by mercury should be precisely the same as if the chancre alone were present; and accordingly we find that as the latter improves, so the swelling and tenderness in the former subside: even should the bubo, in consequence of neglect have acquired great size, and have advanced so far towards suppuration, that the integuments shall have become red, still the treatment should be the same as for the chancre alone. When the ptyalism is commencing, the inflammatory condition of the bubo will for a day appear rather aggravated, but when the ptyalism is established, then the inflammation obviously begins to subside. Some advise the use of mercury to be postponed until the gland has suppurated, and the inflammation has been reduced by letting out the matter; I do not think this delay is necessary, though I admit we should first adopt antiphlogistic means to subdue or mitigate the febril symptoms which have been excited by the inflamed condition of the bubo; this being accomplished, there is no reason why we should longer defer the use of mercury. But should we meet a case, in which, while the chancre is improving, (ptyalism being established,) the bubo becomes larger, and is attended with an increase of inflammatory redness, and a painful sensation like that of scalding, we are then to infer that the mercury is disagreeing; we should, under such circumstances, discontinue it for a few days, direct brisk purgatives, and the most strict quietness, also the horizontal posture.

The amendment in the bubo will assure us that such a line of practice was most judicious, and we may then resume the mercury as soon as we observe its effects on the system beginning to decline, using it perhaps in less powerful doses." 99.

Mr. Wallace admits the necessity for antiphlogistic treatment in the inflammatory state of bubo. We think *he* leans too much on mercury, and drives a sort of bargain between principle and empiricism. He observes that, when the bubo is of some size, adherent to the skin, which is more or less extensively inflamed, and accompanied with throbbing pain and fever, it is indispensable to bring the system with the greatest possible rapidity under mercural influence; and slso to combine with the use of mercury such remedies both local and constitutional, as are most likely to subdue or control inflammatory action. Among these may be mentioned local, and in full habits perhaps general blood-letting,—large doses of tartrate of antimony,—the application of evaporating and saturnine lotions, together with abstinence and perfect quietness.

Mr. Wallace, therefore, combines decided antiphlogistic treatment and impregnation of the system with mercury "with the greatest possible rapidity." To this method of proceeding we object most strongly. It is the old and the pernicious method which has ruined many constitutions, and if persevered in, will surely ruin many more. Persons of a vigorous frame may resist its destructive influence, nay will here and there be benefited by it; but the majority of individuals, especially in towns, are quite unable to bear up against it, and will most certainly in the gross, and in the long run, be seriously damaged by any such measures.

It must be remembered, that inflammation of the lymphatic glands is inflammation of a tissue into which cellular membrane enters largely. Such inflammation is not so likely to be put down by active antiphlogistic treatment *and* mercury, as inflammation of the serous or the fibrous membranes. This is certainly the case with inflammation of the general cellular tissue, and we think it the case with syphilitic inflammation of the glands. But whether the latter be true or not, we are sure that the combination of mercury in large doses and decided antiphlogistic treatment, is what some *constitutions* cannot bear, and what many have sunk under. With persons of irritable habits, buboes or any local affections are apt, under such treatment, to run to mischief, and suppuration, the thing dreaded, is precipitated by the over-debilitating measures employed for its prevention. Whether our readers agree with us or not in these opinions, we would advise them, at all events, not to adopt such measures as those prescribed by Mr. Wallace, without keeping a very careful eye upon their patients, and being ready to suspend their powerful remedies if any inopportune symptoms should arise.

Supposing that the inflammation of a bubo is trivial, or that it has been rendered so by treatment, and that the time for administering mercury has arrived, we naturally inquire what method of doing so is best.

It is impossible, here, to go into the answer in detail. In the last Number of this Journal, we devoted an article to the subject of the administration of mercury, and dwelt on what appeared to be the best and the worst modes of regulating it. It would be useless re-opening the question, and all that appears necessary is to consider one or two points which are concerned in the special management of bubo.

a. Mr. Hunter was of opinion that the resolution of inflamed bubo not only depends principally upon mercury, but "almost absolutely upon the quantity that can be made to pass through it." Nay, he went so far as to assert, that if the bubo had come to suppuration "the cure depends upon the same circumstances."

This is only a more extensive form of the proposition that we have already dwelt on when alluding to the opinion of Mr. Wallace. It is true, that, if our notions of the specific influence of mercury on syphilis are accurate, the quantity of the specific received into the system, is an important element in effecting the cure. To a certain extent, the quantity of mercury employed must also form a necessary element in the cure of syphilitic bubo. But it is not so certain that to *prevent suppuration* in that bubo, a large amount of mercury, is requisite, and this is a material point.

Mr. Hunter's opinions with respect to the quantity required are expressed in a tolerable decisive manner. He remarks that it must be proportioned to the obstinacy of the bubo, but care must be taken to stop short of certain effects upon the constitution. If it be in the first situation, and yields readily to the use of half a drachm of mercurial ointment, made of equal parts of quicksilver and hog's lard, every night, and the mouth does not become sore, or at most only tender, then it will be sufficient to pursue this course till the gland is reduced to its natural size; and this probably will be a good security for the constitution, provided that the chancre, which may have been the cause of the bubo, heals at the same time. If the mouth is not affected in six or eight days, and the gland does not readily resolve, then two scruples or a drachm may be applied every night; and if there be no amendment, then more must be rubbed in; in short, if the reduction is obstinate the mercury must be pushed as far as can be done without a salivation.

If there be a bubo on each side, then there cannot be so much mercury applied locally to each; for the constitution most probably could not bear double the quantity which is necessary for the resolution of one. But in such cases we must not so much attend to the soreness of the mouth as when there is but one; however, we must allow the buboes to go on to suppuration, rather than affect the constitution too much by the quantity of mercury; and therefore when there are two buboes they are more likely to suppurate than where there is only one.

It must be owned that these opinions are exposed to some objections. Thus, the reduction of the bubo and the *healing* of the chancre, are considered by Mr. Hunter to demonstrate the propriety of discontinuing the use of mercury. Yet there are many cases where mercury ought to be still exhibited, and the state of the cicatrix of the sore, as well as the time during which the mercury has been employed, are the principal circumstances which should influence our decision.

b. As bubo results from extension of the syphilitic virus, and of inflammatory action, along the absorbents to their glands, it has been naturally supposed, that the specific remedy should travel by the same route. Mr. Hunter carried out this idea to its full extent.

"Mercury," said he "is to be applied in the most advantageous manner; that is, to those surfaces, by an absorption from which it may pass through the diseased gland; for the disease there being destroyed, the constitution has less chance of being contaminated. The powers of mercury may often be increased from the manner in which it is applied. In the cure of buboes it should always be made to pass into the constitution by the same way through which the habit received the poison; and therefore, to effect this, it must be applied to the mouths of those lymphatics which pass through the diseased part, and which will always be placed on a surface beyond the disease.

But the situation of many buboes is such as not to have much surface beyond them, and thereby not to allow of a sufficient quantity of mercury being taken in in this way; as, for instance, those buboes on the body of the penis arising from chancres on the glans or prepuce.

These two surfaces are not sufficient to take in the necessary quantity to cure those buboes in its passage through them; therefore whenever the first symptoms of a bubo appears, its situation is well to be considered, with a view to determine if there be a sufficient surface to effect a cure, without our having recourse to other means. It is first to be observed, whether the absorbent vessels on the body of the penis are affected, or the glands in the groin. If the disease be in the groin, it may be observed in which of the three situations of the bubo, before taken notice of, it is; whether on the upper part of the thigh and groin, and on the lower part of the belly before Poupart's ligament, or near to the pubes. If they are on the body of the penis, this shows that the absorbents leading directly from the surface of absorption are themselves diseased. If in the groin, on the upper part of the thigh, or perhaps a little lower down than what is commonly called the groin, then we may suppose it is the glands common to the penis and thigh. If high up, or on the lower part of the belly, before Poupart's ligament, then it is to be supposed that those absorbents that arise from about the groin, lower part of the belly, and pubes, pass through the bubo; and if far forwards, then it is most probable that only the absorbents of the penis and skin about the pubes pass that way. The knowledge of these situations is very necessary for the application of mercury for the cure by resolutions, and for the cure after suppuration has taken place.

The propriety of this practice must appear at once when we consider that the medicine cannot pass to the common circulation without going throughthe diseased parts; and it must promote the cure in its passage through them; while at the same time it prevents the matter which has already passed, and is still continuing to pass, into the constitution from acting there, so that the bubo is cured and the constitution preserved." 369.

It is probably correct to believe that mercurial inunction is the most efficient mode of administering mercury. Yet probably also, more importance has been attached to this direct method of exhibiting it than it deserves, for we find that buboes, as well as other venereal symptoms, are cured satisfactorily enough by the blue pill. If mercurial inunction is on the whole the best, it is not merely from its travelling the same route as the poison, and, if we may say so, overtaking it, but probably from its producing less disturbance in the system, than mercury received by the stomach occasions. We find that mercurial inunction is as well adapted for secondary symptoms as for primary, although, in the former case, the rationale of its action is not so direct.

Mr. Hunter, indeed, appears to be extravagantly given up to the idea that the medicine ought to travel post after the poison. He does not so much as mention the administration of mercury internally for bubo, and he points out the exact spots for rubbing in the ointment, acccording as the bubo varies in its situation. If the bubo be in the groin, then he tells us that it is necessary to rub the mercurial ointment upon the thigh. This surface will in general absorb as much mercury as will be sufficient to resolve the bubo, and to preserve the constitution from being contaminated by the poison that may get into it; but if resolution does not readily take place, then we may increase the surface of friction, by rubbing the ointment upon the leg.

But if the bubo be on the lower part of the belly, that is, in the second situation, then the ointment should be rubbed also upon the penis, scrotum, and belly; and the same if the bubo should be still forwards; for probably those glands receive the lymphatics from all the surfaces mentioned, as well as from the thigh and leg.

When buboes occur, in woman, between the labia and thigh, the mercury, Mr. Hunter informs us, may be rubbed in all about the anus and buttock, as all the absorbents of those parts probably pass that way; we know at least that they do not pass into the pelvis by the anus, but go by the groin. Other means of introducing mercury must be recurred to, as is recommended in the case of men; but still it will be proper to rub in on these surfaces as much as possible. These statements prove how much importance Mr. Hunter attached to the site and practice of mercurial inunction, and, perhaps, that he overrated the necessity for paying extreme attention to either.

We have already observed, that, so far as we have been enabled to judge, inunction is the best mode of exhibiting mercury. Yet it is little practised. The objections to it are its inconveniences. Syphilis is a diseases which, in most instances, is concealed. Inunction is not only a troublesome, but it is a tell-tale sort of remedy. Private patients generally dislike it.

On the whole, the treatment of syphilitic bubo by mercury may be loosely summed up in the following conclusions: *that*, when the presence of excessive inflammation does not, for the time, forbid it, mercury should be freely, but cautiously, employed; *that*, the quantity of mercury administered should be regulated by the consideration of all the circumstances of the case, and not merely by a reference to the individual symptom—bubo; *that*, the termination of the course should not hinge on the removal of the bubo only; *that*, on all these points, the surgeon must be guided by his general knowledge of syphilis, and by the general principles of its treatment; *that*, mercurial inunction is, cæteris paribus, the best mode of using mercury for bubo, but not at all indispensable.

Treatment of Bubo in the stage of Suppuration.—We have failed in the attempt, and this should not often happen, to prevent the suppuration of a bubo. Its management in this stage now devolves upon us. Conflicting opinions have been expressed and acted on, and the reader of different works feels a difficulty in determining what plan to adopt.

A. Occasionally, a bubo has all the appearance of having actually suppurated, yet either those appearances are false, or the matter formed may be absorbed. Mr. Hunter mentions a case of this kind, in which sea-sickness cured the bubo; he mentions it for the purpose of introducing emetics to our notice.

> "Vomits have been of service in resolving buboes, even after matter has been formed in them, and after they have been nearly ready to burst; this acts upon the principle of one irritation destroying another; and sickness and the act of vomiting perhaps give a disposition for absorption. A remarkable instance of

this kind happened in an officer who had a bubo at Lisbon. It came to fair suppuration, and was almost ready to burst. The skin was thin and inflamed, and a plain fluctuation felt. I intended to open it, but as he was going on board a ship for England on the day following, I thought it better to defer it. When he went on board he set sail immediately, and the wind blew so very hard that nothing could be done for some days, all which time he was very sick, and vomited a good deal; when the sickness went off he found the bubo had disappeared, and it never afterwards appeared. When he came to England he went through a regular course of mercury." 370.

B. After other means have failed, and suppuration seems inevitable, we have seen repeated blisters effect its gradual dispersion. We should say, indeed, that if other methods seem likely to be unsuccessful, the patient should always be offered the chances which blisters give. They are painful remedies—they frequently prove useless—but now and then they decidedly seem to prevent suppuration.

Dr. Colles recommends blisters in a particular condition of bubo. We are not disposed to limit their use to that condition, but we admit their peculiar adaptation to it.

> "We sometimes meet with the following condition of a bubo,—a large, indurated, indolent mass, the integuments but little or not at all discoloured, with sometimes a slight tendency to inflammation and suppuration, and yet the patient has used mercury so as to affect his system; in such a case I think blisters will be found most efficacious; they should be applied repeatedly but not retained longer on the part than five or six hours. Some advise us, if we feel a softened spot in the centre, or in any part of this tumour, to apply the kali purum, with the hope not only of letting out the matter, but also of exciting a healthy inflammation in the part; this practice, however, entails the additional inconvenience of an open ulcer without accelerating the dispersion of the bubo as efficaciously as blisters do. Many cases of this sort are ascribable to an injudicious use of mercury, and therefore we must at the same time apply ourselves to restore the system to a more healthy state." 103.

C. We have occasionally seen a bubo advance apparently towards suppuration, unchecked by any remedies employed. It has seemed to be on the point of breaking, the skin being extensively reddened and thin, and the swelling presenting, if not actual fluctuation, at all events a boggy state, which closely counterfeits it. If the surgeon plunges a lancet into the swelling, bloody serum, and not pus, issues, or, perhaps a thin sero-purulent matter may flow. Such buboes, however unpromising they may appear, not unfrequently do very well. The cuticle desquamates, the swelling gradually subsides, and resolution is effected after all. We have seen this occur under poultices, blisters, and such various modes of general treatment, that it is difficult to say what particular methods best suits this condition of bubo.*

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* Mr. Wallace appears to allude to the same fact as we have done. Having remarked that, even when suppuration has occurred, the pus is sometimes absorbed, he proceeds:—"But, on the other hand, should the process of suppuration have advanced more slowly, having been long in commencing; should the bubo be attended by comparatively little pain and heat, or inflammation; should the skin covering it be somewhat flaccid or wrinkled, with a strong propensity

D. If suppuration is unequivocal, the skin growing thinner, and absorption of the matter out of the question, the surgeon must determine whether he will let the bubo burst, or rather let the skin be more or less destroyed by ulceration—or, whether he will open the abscess. He must first, however, determine another thing—whether he will continue mercury, supposing that he has used it up to this point. For our own parts, we must say, that, when suppuration seems inevitable, we think it best to discontinue the administration of mercury, and not to resume it until the stage of granulation has commenced. We treat the abscess as a thing per se, an accidental consequence of an accidental amount of inflammation, and not as a part of the special disease. Without entering on reasons which must be more or less hypothetical, and which may be true or may be false, we are convinced, as a matter of simple observation, that if suppuration is decidedly advancing, it is better to withhold the mercury. The continuance of its use seems to us to tend to make the suppuration more extensive, and the subsequent stage of ulceration more severe.

Mr. Hunter alludes in a specific manner to this subject. He adopts, it will be seen, a middle course; and, considering that, at the time when Mr. Hunter wrote, mercury was thought to be more indispensable than it now is, his moderate opinions tell in favour of the plan of suspending the administration of mercury altogether.

> "It may admit," observes Mr. Hunter, "of dispute whether the application of mercury should be continued or not through the whole suppuration. I should be inclined to continue it, but in a smaller quantity: for although the parts cannot set about a cure till opened, yet I do imagine that they may be better disposed to it; and I think that I have seen cases where suppuration has taken place, although under the above-mentioned practice, that were very large in their inflammation, but very small in their suppuration, which I imputed to the patients having taken mercury in the before-mentioned way, both before and while suppuration was going on." 374.

Mr. Wallace speaks boldly to the point.

> "If an incision be made into a bubo while the system is impregnated with mercury, or if mercury be exhibited soon after an opening has been made, or soon after a bubo has spontaneously opened, we shall be in danger of exciting a troublesome form of disease, which it may be afterwards very difficult to control. Therefore, when we are of opinion that a bubo is not likely to be resolved by mercury, and that it must be allowed to open spontaneously, or be opened by art, we are to desist from the use of this medicine until suppuration is completed and the matter discharged; or until an incision has been made into the tumour, and that, by antiphlogistic and emollient treatment, &c. the wounded part has been brought into a state of tranquillity. We are to be equally careful of opening a bubo when the system is already impregnated with mercury." 364.

It has generally appeared to us, that, when the matter was coming forward, salines and aperients have answered best.

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to desquamate; and should the habit of the patient be less full or plethoric; I do not despair of causing the resolution of the bubo and the absorption of its contents, particularly if mercury has not been previously used."

The only difference between Mr Wallace and ourselves is this—that he limits the power of effecting resolution to mercury—while we believe that several modes of treatment may possess it.

E. We are not aware of any good reason for allowing the bubo to be opened by the natural process of ulceration of the skin. But the common sense and experience of surgeons have ever supplied reasons enough to the contrary.

F. The superior advantages of opening the abscess by incision or by caustic have divided in some measure the opinion of surgeons. It appears to us, that, as a general rule, there are no valid reasons for preferring caustic, nor for opening a bubo in a different manner from that in which we open other abscesses. The destruction of the skin by caustic is painful, clumsy, slow, and must necessarily destroy more or less integuments. In irritable habits, too, it may possibly induce such destructive action as is not very easily put down. The following case, though not quite in point, is sufficiently so to lead us to publish it. It gave us a warning, and may give the same to others.

Case. In 1833, a young man, an assistant in a soda-water manufactory, came under our care. He had had a suppurating bubo in the right groin. This had been opened, the cavity was large, and there was a quantity of thin bluish skin flapping over it, and apparently interfering with the processes of reparation. It occurred to us that it would be better to destroy this integument by caustic. We did so with the potassa fusa. In a day or two the bottom of the cavity and the surrounding skin assumed an angry appearance, a greyish sloughy surface having formed upon the former, a red blush hanging over the latter. This angry appearance increased—a large phagedænic sore resulted. The cavity deepened by ulceration and by sloughing, and extended in circumference by the same processes. At the end of seven or eight days it was of the size of a small saucer, and the femoral artery, covered with an ashy, spongy, sloughy layer of granulations, was seen beating at the bottom of the sore. Hæmorrhage was expected every hour, and assistants were stationed with the view of controlling it by immediate pressure. We had just seen the young man one evening, and were leaving the room, when we heard the cry of the vessel having given way. We rushed to his bed-side, and saw a jet of arterial blood issuing from the ulcer. In an instant, nearly a pint of blood had been lost. We thurst our thumbs into the sore at the bleeding spot, and, fortunately, the pressure stopped the hæmorrhage. We kept the thumbs in the wound for a couple of hours, until, in fact, we had lost all sensation in them. Then, having directed compression on the artery above the sore and below it, we cautiously substituted lint and a pressè-artere for the hand, and, by means of assistants, kept them applied without change of position for twenty-four hours or more. In the mean time we had given the patient large quantities of port-wine and opium, indeed had stupefied him with them. Our delight may be conceived at observing, at the end of the twenty-four hours, a healtheir appearance in the ulcer, and no immediate disposition to hæmorrhage. We plied the stimuli, dressed the wound, granulation came, and ultimately the patient recovered perfectly—an event that, at one time, we did not venture to hope for. As we remarked before, this case read us a lesson. Let those who will, apply caustic freely to the groin; we confess that we are rather afraid of it.

The main argument urged for the application of caustic, is the inability of the skin to recover itself. But there seems no reason, à priori, why the skin should ulcerate or slough in bubo more than in other glandular abscesses. If, in point of fact, it does, the surgeon is led to investigate the cause, and to inquire whether *he* is not that cause. In our conscience, we believe that he generally is.

The continued and excessive use of mercury, conjoined with those antiphlogistic remedies which the previous inflammation has naturally led to, must tend to lower the powers of the system and to increase the suppurative and ulcerative processes. In proportion as those means have been abused, will the destructive predominate over the reparative actions. If, under such circumstances, the skin is allowed to become very thin, before an opening is made in it, we cannot be surprised at the vital powers of the integument, dissected as it is from the subjacent parts, being unequal to its preservation, or to the effort of producing granulations.

If these views are correct, it follows that if mercury is not pushed too far, if antiphlogistic measures are not pursued too long, and if the integument is not suffered to become too thin, its destruction is not necessary nor even probable. Nor do we believe that it is. We can only say that we do not find the skin ulcerate or slough, nor do we meet with cases in which caustic is required to remove, by a quick process, integuments which must otherwise be removed by a slow one.*

G. If incision is preferred to caustic, two or three questions are still open.

Is an early opening or a late one preferable?

Is a small incision or a free one advisable?

On these points we find no explicit information in the pages of Mr Hunter.

The opinions of Dr. Colles are expressed in few words.

> "The opening of the bubo should be delayed until the tumor has pointed, and the skin has become very thin; an earlier opening will induce an increase of pain and fresh inflammation, which will not subside in less than three or four days: by delay, also, there is a chance that the matter may be absorbed, and the patient be thus saved from all the annoyance attendant on an ulcer in the groin.
>
> In most cases I advise the opening to be made in the thinnest part of the integuments, and only large enough to admit of the easy escape of the matter.
>
> There is one particular form of bubo, in which a very different rule for opening it must be adopted; I allude to that which has acquired a large size, in which the tumor does not point or become conical, but assumes a flat surface, the whole of the integument becoming very thin and discoloured; in such a case we should cut through the entire length of this thin covering of the abscess. Were we only to make a small opening, we should find that the discharge would

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* In reference to the pain produced by incision and by caustic, we may quote a fact mentioned by Mr. Hunter:—"I once opened two buboes in the same person, one immediately after the other. The first was with the lapis infernalis, which gave him considerable pain, and therefore he would have the other opened with a lancet, as the pain would only be momentary. But it was great, and the soreness continued long, while there was no pain in the other, deadened by the caustic, after it had done its business."

We doubt whether this is generally the case. The pain of a cut does not usually last long. The pain occasioned by caustic is not usually evanescent.

continue very long, that it would be thin and of bad quality, and that at the end of five or six weeks there would be no prospect of healing; for the integuments will have lost so much of their vitality, that they will either be removed by ulcerative absorption, or will have curled and turned in, and then the surgeon will be compelled to apply the caustic, or the knife, for their removal." 101.

Mr. Wallace is seldom indisposed to refine, and occasionally, too, he uses words so liberally that the reader feels some difficulty in determining the sense. But this may be collected from his diffuse remarks:—first, that, the incision should be proportioned both in its depth and extent to the size of the tumor; for, unless it be made deep, we may not reach the purulent focus; and unless it be made extensive, or through such parts as are in progress to suppuration, we shall not stop this process; and, before it be completed, the opening we have made may close up from tumefaction, and the patient be thus exposed to the necessity of a fresh operation, or else to await the discharge of the matter by the natural actions of the part. Whereas, if we make an incision sufficiently extensive, we shall not only avoid these evils, but also diminish very considerably the extent of the disease. In fact, an incision into a bubo, when in the state of incipient suppuration, will in general as effectually put a stop to its progress as it will to that of an anthrax when in an analogous state;—secondly, *that*, if the incision be deferred until the process of suppuration be complete, a small puncture will be sufficient; for, as soon as the containing matter is discharged, the cavity of the abscess will contract, and its sides become gradually agglutinated by the cohesion of the lymph with which they are lined.

> "It still, however," continues Mr. Wallace, "remains to be determined, whether we should prefer opening a bubo in its earlier stage of suppuration, with the object of stopping its further progress—as we do in cases of anthrax—or wait until the suppurative stage is more fully advanced. This is a question, however, which the circumstances of each case must decide for itself. I shall only observe that an early incision into a bubo will in general, as already said, stop its further progress; but it will of course give more pain than a simple puncture at a more advanced stage of the disease. I would therefore leave the choice to the patient; and we shall find that some will prefer an early incision, with the view of cutting short the disease; while others will prefer waiting until the disease be *ripe*—to use a popular form of expression." 363.

These statements will we think appear startling to most surgeons of experience. An incision into a carbuncle cuts it short, for these reasons. Carbuncle is inflammation and sloughing of the subcutaneous cellular membrane. If no incision is made, pus and lymph are deposited in the cells of the tissue, and not only interrupt the vascular supply to them, but, subsequently that to the skin itself. The parietes of the cells consequently die, and the skin dies over them afterwards. An incision, made sufficiently early, discharges the cells of the pus and lymph, relieves the tension of their parietes, and prevents more or less the interruption of the vascular supply to them and the skin. It is very dubious whether the case of suppurating bubo is analogous in principle or in detail to that of anthrax—it is still more dubious whether an early incision into it will cut it short. Mr. Wallace's argument is extremely unsatisfactory;—the plan of early incision, says he, is most successful, but it is painful, and patients will not submit to it. If it were merely painful, we are sure that most surgeons would recommend, and that many patients would be found quite willing to submit to it. But we feel confident that not only it is very painful, but it would not always cut the bubo short. If an opening is made too early, into a phlegmonous abscess, and especially into an abscess in a gland, one or two focuses of suppuration may be evacuated, but others subsequently form, and other openings are required for them. This, we have little doubt, would happen in many instances with bubo; nay, when the opening has been made early, we have ourselves seen it happen. Another argument against precipitate incisions is the probability that in irritable constitutions they might excite phagedænic action. Any one that has seen much of syphilis will always have the fear of this before his eyes, when he pokes his lancet or his probe into inflamed venereal swelling. A third, and not a trifling consideration militating against Mr. Wallace's advice, is the certainty that, were all buboes so incised at an early period, the patient would often undergo much pain and some degree of risk for nothing, as many buboes which bid fair to suppurate, do not do so after all.

So far as we can determine the value of the cases we have seen, and draw correct conclusions from those data, the following appears to us to be the best mode of proceeding.

1 To wait until the abscess has fairly pointed—that is, until a considerable central or other portion of the tumor has softened, and the integument has become thin in some definite part. The amount of softening and of thinning is insusceptible of verbal description. It is *not* wise, we conceive, to wait until the integument has grown *very* thin, to any material extent, nor to allow it to assume a blueish colour. If these conditions are permitted to occur, it is not improbable, that, after incision, the skin will ulcerate or slough.

2. The opening should be as dependent as possible. Its direction should neither be in a horizontal nor in a vertical plane. If, in the former, each motion of thigh will act on the lips of the wound, separating or approximating them, and by this disturbance interfering with the subsequent processes of reparation; if the opening is verticle, it is not exposed to this inconvenience, but it does not sufficiently evacuate the abscess, An oblique incision combines, in some measure, the advantages, and avoids the inconveniences of both the others.

3. We have not found, in buboes of any magnitude, a small opening answer. The matter has collected below the wound, and a sinus has, not unfrequently, resulted.

We have tried two methods of obviating this annoyance. One is the employment of a seton. When the bubo is in a condition to be opened, we have made a small incision into the most prominent point, as nearly as possible one third from the highest point of the circumference of the bubo. Into this opening we have introduced an eyed probe, armed with a thin seton of silk, or lint. Directing the probe to the most dependent part of the abscess, we have made the skin project upon its point, and cut down upon the latter. The seton-thread is then drawn from opening to opening, and retained until the cavity is pretty well filled by granulation. We tried this plan extenlively in the Lock Hospital, and it answered there extremely well. Of course, it is only necessary in cases of bubo of some size.

A second mode of treating such buboes is by laying them open in the inferior two-thirds of their extent. An opening is made, as in the application of the seton, about one-third from the upper margin of the abscess. Into this opening a director is passed, and its point made to project under the skin at the most dependent recess of the cavity. A sharp-pointed bistoury is run along the director, pushed through the skin at the dependent point alluded to, and the intermediate skin between the the superior opening and that point divided. This plan answers extremely well, If properly executed, we might almost say that a second cut is *never* requisite. At all events it will very rarely be so. The surgeon should take care to observe the rule we have given with respect to the direction of the cut—as well, at least, as he can.

We are quite sure that small openings for large buboes are trifling with the time and hopes of the patient. Sinuses form, fresh openings are necessary, unnecessary pain and disappointment are inflicted, and the results are any thing but satisfactory either to surgeon or to patient. We have seen a patient confined to his bed by a succession of those sinuses for upwards of twelve months—we have seen many patients so confined for several months.

H. The opening of the abscess may be said to be the signal for tonics. We do not say that they are to be given with the eyes shut, but we do say that the principle then is to support the patient. On the means of doing so we shall not dwell. Quinine, sarsaparilla, a good diet, a certain quantity of the stimulus that the individual has been accustomed to take, will naturally occur to the mind of the surgeon. Support, rest, poultices, are the rule—any thing else the exception. Granulations are the things desired. Those means contribute to their coming. Mercury does not, and mercury, as the rule, should be avoided. On this point we differ from Mr. Hunter. He observes that the bubo, after it is opened, is to be dressed "according to the nature of the disease, which, I have already obseved, is often so complicated as to baffle all our skill. The constitution at the same time is to be attacked with mercury, either by applying it internally or externally: if externally, it should be applied to that side and beyond where the bubo is, as I before directed in treating of the resolution of buboes, for it may have some influence on the disease in its passing through the part."

We feel pretty sure that the bubo baffled the skill of Mr. Hunter, the more frequently on account of his ideas respecting mercury.

Mr. Wallace's injunctions seem to us much more safe.

> "As a general rule, mercury is not to be employed in such cases until the stage of granulation has commenced,—and for the same reason as we refrain from its employment in the ulcerative stage of the primary ulcer. In fact, if it be used at this period, we run some risk of exciting an increase of the ulcerative process." 364.

Treatment of the Ulcer of Bubo. When granulations have sprung up, the ulcer is to be dressed in accordance with the principles which should regulate the dressings of all ulcers. On these we shall be silent. The resumption of mercury will hinge on these considerations;—the quantity the patient has already taken—the condition of the system, quoad the venereal virus, shewn by the state of the primary sore or its cicatrix, or by other circumstances—the state of the ulcerated bubo itself.

The continuance of the mercury, supposing it resumed, will be regulated by the general principles which we have pointed out elsewhere, and by a vigilant watch of the state of the ulcerated bubo itself. If the sore wears at all an irritable aspect, if the granulations are absorbed or do not advance, the surgeon will do well to consider whether he must not withhold the mercury again—whether he is giving too little, which seldom happens—or whether he is giving too much, which often happens. We know of few venereal conditions, excepting, perhaps, the venereal phagedæna, which require more caution, not to say skill, than the management of some ulcerated buboes. We shall return to this subject immediately. In the mean time, we pass to another, practically not unimportant.

A. It is the influence which the state of the primary symptom should exercise over the treatment of bubo. Mr. Wallace is the only author who touches upon this point. His observations on it are brief.

When a bubo, he says, and a primary symptom occur together, it unfortunately sometimes happens, that the indications presented by the former will be at variance with those presented by the latter. Thus a primary symptom which should not be treated with mercury may exist, along with a bubo which imperiously requires this remedy; or, bubo may exist in a state opposed to the use of mercury, yet combined with a primary symptom requiring it. For example: an ulcer in its inflamed state, or during its ulcerating stage, and consequently when it might be injured by mercury, may possibly be accompanied by a bubo which might be resolved by this medicine. Again: the process of suppuration may be so far advanced in a bubo as to leave no hope of resolution from mercury, or the presence of that of ulceration may render the use of this medicine improper; while the primary ulcer is in the stage of reparation, and therefore peculiarly suited to mercurial treatment, &c. &c.

Such complicated or compound cases are always embarrassing, and their treatment must be left to the discretion of the practitioner; who should adopt, after mature consideration, that which promises, on the whole, the greatest advantage to his patient.

It is quite true, that occasional embarrassment ensues from the contradictory indications presented by the two symptoms. Yet we do not think the rule of practice in these cases so dubious as Mr. Wallace esteems it. That rule is never, if we can help it, to do harm. Injury is positive—good too often negative. The difficulty hinges on the administration of mercury. If this aggravates either the bubo or the sore, it should be discontinued; for, if persisted in, it may do great mischief, while a little delay in its administration for the symptom with which it does agree, can scarcely be of material consequence.

B. *Herpetic, or obstinate Ulcerations from Bubo.* We observed a short way back, that we should return to the subject of ulcerated bubo. We do so for the purpose of displaying some of the more troublesome, and, happily, more uncommon forms.

Mr. Hunter indulges in some rather obscure reasoning upon these cases. It does not amount to much, nor explain much. He suspects that when the ulcer takes on the anomalous conditions we shall exhibit presently, it is owing to some peculiarity in the constitution or the part. Probably this is, in general, the correct view of the case. But occasionally, the irritable state of the sore is clearly traceable to the improper use of mercury, which may have been given either at an improper time, or in improper quantities. It is clear, however, that the only mode of generalizing on exceptions, which such cases are, is to collect them, and to observe if they are reducible to any single formula. We shall quote some of the cases that we find in the pages of Mr. Hunter and of Dr. Colles.

> Case 1. "A gentleman had a very large venereal bubo, which was opened. He took a good deal of mercury for about two months; but, I suspect, not in sufficient doses, which produced a mercurial habit. The bubo had no disposition to heal, and I was consulted. From the account he gave me, I suspected that he had then too much of a mercurial habit to receive at this time any further good from that medicne. I therefore advised him to use a good nourishing diet for near a month; after that I put him upon a brisk mercurial course by friction; and the parts put on a better appearance. This course he continued for near two months, and then the sore, although much mended, began to be stationary. I did now conceive that the venereal action was destroyed, and therefore immediately left off the mercurial course, and put him upon a milk diet, and sent him into the country. But not gaining much ground, he had a strong decoction of the sarsaparilla with mezereon given him, which, although continued for above a month, produced little or no effect. I also gave him the cicuta as much as he could bear, with the bark almost the whole time, without effect: new sinuses formed, which were opened, and the sore became extremely irritable, with thickened lips. The dressings were poultices made with the juice of hemlock, sea-water, opium, and a gentle solution of lunar caustic; but nothing seemed to affect it. I suspected scrofula, and therefore proposed he should bathe in the sea; but this then could not be done. These different treatments, after mercury had been left off, took up about four months without the least benefit. Being doubtful whether there might not be still something venereal in the sore, especially as appearances were growing worse, and it was now four months since he had taken any mercury. I was inclined to try it once more, and sent him two portions of ointment, half an ounce each, to rub in in two nights. He had caught a little cold, and therefore did not rub in the mercury the two evenings as ordered; and called upon me the third day and told me he was much better. The sore now became easy, the watery or transparent inflammation began to subside, the lips became flatter and thinner, and the edges of the sore began to heal. I then desired him not to rub in the ointment, but wait a little. In eight or ten days the sore had contracted to three-quarters of its former size, and had all the appearance of a healing sore." 377.

This case proves little save this—that when such do well, we should be careful how in our own minds we attribute very much to our remedy or remedies. We will not comment on the dangerous doctrine of Mr. Hunter, that, if mercury be given for a lengthened period, a "mercurial habit" may be set up *because* the mercury is not given in sufficient doses. The danger of the doctrine is only equalled by its ambiguity.

Case. 2. A gentleman had a common severe gonorrhœa. Mr. Hunter ordered him an injection of the corrosive sublimate, with a few mercurial pills. At the end of ten or twelve days he was no better, and Mr. Hunter desired him to be quiet. About this time a swelling took place in each groin, and Mr. Hunter, supposing them venereal, ordered mercurial inunction. The buboes suppurated, and while they were doing so, the gonorrhœa got well. The frictions were left off.

> "The skin covering the buboes became thin; they were both opened, one with a caustic, the other with a lancet; he then was ordered to rub in mercury

again on the thighs and legs for their cure. They began soon to look well, and to close fast; but when about half healed they became stationary. I suspected that a new disease was forming. On continuing the frictions a little longer they began to inflame and swell anew, and a suppuration took place about half an inch above each of the first suppurations, which broke into the first. I left off the mercury immediately upon their inflaming, and said that now a new disease had formed. I ordered poultices made with sea-water to be applied, and also a decoction of sarsaparilla to be taken; but this appeared not to be sufficient for the cure of this new disease. I then ordered him to go into the tepid sea-bath every evening, the heat of the water to be about ninety degrees. By the time he had been in the bath four times the inflammation and swelling had very much abated, and the first sores, or original buboes, were beginning to heal. He went on with the bathing every evening for about three weeks, when the sores rather began to look worse; I then suspected that the venereal disposition was become predominant, and I ordered the friction as before. In about a fortnight the first buboes healed, but the second suppurations were not yet healed; then I supposed it to be entirely the new-formed disease, and he went into the country, where I desired he might go into the open sea every day, as he then could have an opportunity, which he did, and got perfectly well, and has continued so." 378.

With all deference to Mr. Hunter, it seems highly probable that it was the treatment he adopted, which gave the case its severity. It is by no means clear, that mercury was ever required, nor is it clear that it was not productive of mischief. It is rather curious to watch Mr. Hunter's speculative reasoning and to note the manner in which he makes alternately one disease and another disease take possession of the sore.

Case 3. Mr. H. relates another case, in which the ulcerations spread in all directions, rising above the pubes, almost to the navel, and descending upon each thigh. A great variety of medicines were tried, particularly mercury in different forms, with little or no effect. Extract of hemlock did more good than anything else, and was taken in unusual quantities. An ounce was swallowed in the course of the day for some time, which was afterwards increased to an ounce and a half, two ounces, and even two ounces and a half. It produced indistinct vision and blindness, loss of the voice, falling of the lower jaw, a temporary palsy of the extremities, and once or twice a loss of sensation; and notwithstanding he was almost every night in a state, as it were, of complete intoxication from the hemlock, his general health did not suffer, but, on the contrary, kept pace in its improvement with the ulcers. After more than three years, the ulcers were nearly healed, when, having committed some irregularities in diet, the sores grew worse, and he returned to the extract of hemlock, which he had for some time laid aside, and of himself, swallowed in the course of the morning ten drachms. This quantity was only the half of what he had formerly taken in twenty four hours, but his constitution had been at that time gradually habituated to the medicine. The ten drachms produced great restlessness and anxiety; he dropt insensible from his chair, fell into convulsions, and expired in two hours.

Dr. Colles alludes to the herpetic or creeping form of ulcerated bubo, under the appellation of the horse-shoe ulcer. He relates a case of which we shall present the principal particulars.

Case 4. In 1823, Mr. H—, aged 30, contracted a sore on the frænum. Argentum nitratum was rubbed on the ulcer, and he used mercurial ointment under the care of a physician who made him repeatedly suspend the use of mercury the moment his mouth became ever so slightly affected.

Before he had ceased the course of frictions, a bubo appeared in his groin—this was punctured with a lancet. In five months after the appearance of the chancre he consulted an eminent surgeon in Cork, who prescribed some form of mecurial pills which slightly salivated him: he used only twelve of these. This surgeon then told him he should not use any more mercury, and advised sarsaparilla, lotions, and ointments of various kinds. Twelve months from the commencement of the disease he again consulted the same surgeon in consultation with Mr. Evans, the author of the Treatise on Ulcerations of the Genital Organs. Repeated venesections and low diet, (the results of their deliberations,) he states, induced great weakness, and nearly brought him to death's door.

When recovered from the debilitating effects of this plan, he repaired to London, where he remained for one month under the care of the late Mr. Abernethy. Blue pill every second night, and a sort of blue wash constituted the plan of treatment.

He next applied to another very eminent surgeon in London, who tried blue pill for a short time, but laid it aside because he thought it caused erysipelatous inflammation, and he cautioned him *never again* to use mercury. Under this gentleman's care he remained for two months trying a great variety of external applications, never employing the same beyond four or five days. He also used a variety of internal remedies, among which were acids, bark, and arsenic.

He next applied to the late Mr. John Pearson, and during six weeks that he remained under his care, he took sarsaparilla-syrup, and used a variety of local applications, of which he can only name carrot poultice.

In the Summer of that year he drank the Harrogate waters for one month, having been told that the sores were prevented from healing by a scorbutic state of his blood. He derived no benefit from these waters.

In the latter end of 1825, and 1826, he underwent long and repeated courses of sarsaparilla.

In October, 1826, he applied to Dr. Colles. The following was his condition at that time.

He has an ulcer, the size of a shilling, on the left outer ancle—this does not possess the character of a secondary venereal ulcer. In the left groin is a cicatrix, which beginning about the anterior spine of the ilium, is continued down the groin and passes to the back of the thigh, where it joins a prodigiously extensive ulcer; this ulcer reaches from the anus down along one-third of the back of the thigh; below the fold of the buttock it covers the entire breadth of the posterior part of the thigh. Above the fold of the buttock it is less wide, being in one place as narrow as one inch and a half. It is surrounded by a very deep edging of skin, which is cut very irregularly into knobs. The surface of this extensive ulcer is every where devoid of granulations, and presents three spots of deeper ulceration, in parts remote from each other. The entire of this ulcer is exquisitely sensitive and sore. Another branch of the cicatrix extends along the front of the thigh, and having traversed the upper third of the limb, it there ends in an irregular deep ulcer, the size of half-a-crown. The skin of the forehead near the roots of the hair is a deep red or copper colour, and the scalp is in a very scruffy condition. The general health is apparently very good. For three years he has been prevented by this disease from attending to any business.

Dr. Colles put him on mecurial inunction in half-scruple, and scruple doses. The sores were dressed with ointment containing mercury. On the 5th of November, the mouth was a little affected. On the 13th, the ulcers were all healing, but partially spreading. The dressings that agreed were cerati calaminæ ℥j. unguenti æruginis æris ʒij. M. On the 22nd, he was ordered sulphate of quinine. On the 7th of December, we find the following report:—He has now rubbed for twenty-four successive nights ung. hyd. fort. ℈i. by which his mouth is affected, but this affection does not increase according to the increased number of rubbings. The two small ulcers have scabbed; the large ulcer is very much reduced in extent, is much less irritable, and its edges are very healthy. Omitt. ung.—repet. sulph. quinæ.

The patient went on improving till the 28th. Then the quinine was omitted, and the mercurial ointment (℈ss. o. n.) resumed. This plan, with an addition to the quantity of mercury, was pursued till the 19th of January, when the ulcer had become irritable, and lost granulations, and the mouth was slightly affected. The mercurial ointment was omitted and the quinine resumed. From this moment, the ulcer improved uniformly, and, on the third of March, the patient returned to the country, with the ulcer on the very point of being perfectly healed.

We quite agree with Dr. Colles that, probably, this patient had a certain amount of the venereal virus lurking in his constitution. The *early* history and the consequences of the *latter* treatment both conspire to make this likely. Why it should have resisted mercury before, it would be unprofitable to enquire now. The mode of exhibiting may not have been appropriate, or the state of constitution may not have been adapted for it. But the very evidence that proves mercury to have been serviceable in this case, proves small quantities only to have been useful. From the 28th of December it as palpably disagreed, as before that time it agreed with the sore.

We are not disposed to go into the treatment of the phagedænic, herpetic, or simply obstinate forms of ulcerated bubo at present, as that is involved in the wider question of the treatment of the phagedænic primary and secondary symptoms in general. We shall content ourselves with observing that there is no plan of management applicable to all cases. Small doses of mercury may be suited to one, will be destructive to many—tonics will be required in many cases—sedatives in most. There is nothing which more heavily taxes the judgment, experience, and caution of the surgeon than the treatment of phagedæna.

c. *Sinus between the Scrotum and thigh.* This is another consequence of ulcerated bubo. It leads down from the pubic corner of the ulcer. We observe the skin, says Dr. Colles, in this situation to be red and raised; by pressing on this, we force out a little matter into the ulcer; from day to day we can see this sinus increasing in length. This disease teazes the patient for a long time, as it continues even after the accompanying chancre has healed, under the influence of mercury. Pressure has no influence in arresting the progress, or in effecting the cure of this sinus. The treatment to be pursued in this case is either to leave it to the restorative powers of the system, or if these prove inefficient, we may divide it in its entire length, or make a small opening into it inferiorly, and daily inject some stimulant fluid.

This is Dr. Colles' recommendation. The general state of the patient being properly attended to, the best mode of treating this sinus is by dividing it—the next best, by passing a seton through it—the worst (so we have found it) by the injection.

d. *Indolent Syphilitic Bubo.*—Mr. Wallace devotes some pages to the consideration of this form of bubo. Its peculiarities are, according to that author, the following:—1st. More glands than one are generally enlarged in the disease. 2d. The surrounding cellular substance is extensively affected. 3d. The integuments, when engaged in the disease, are of a deep livid or purple red. 4th. The matter slowly approaches to the skin by one extensive surface, or at successive times by a number of smaller surfaces. In both cases, the vitality of a large portion of integument is often destroyed, or its texture greatly altered, from whence there results, either an ulcer with undermined edges and detached flays, or else numerous fistulous openings. 5th. The matter discharged deviates, more or less, in its characters, from thick homogenous whitish-yellow pus,—being serous and sanguineous, or serous and curd-like, or a thickish glairy or viscid fluid. And *finally*, the processes are slow, and attended with a febrile condition of system.

It is commonly supposed that buboes which display this peculiarly sluggish state are scrofulous. We agree with Mr. Wallace that the term is much abused. That the cause of the peculiarity is in the constitution is most propable—that there is any single cause operating in all cases is not probable. Each case must be investigated and treated in a special manner. Some general rules may assist us in the management of the particular case

1. When there is pyrexia, mild antiphlogistic remedies are indicated. The secretions may be improved, and evaporating lotions, or poultices applied according to circumstances. Leeches, too, *may* be useful.

2. When pyrexia is removed, mercury may be gently tried. But it must be tried as an experiment, and a very cautious experiment too.

3. Tonics are certainly necessary. Sometimes one, sometimes another answers best. Sarsaparilla with the liquor potassæ usually agrees. Occasionally the mineral acids are useful. Commonly it is necessary to change the medicine frequently.

4. Blisters are often of service, previously to suppuration.

5. A moderately early opening should be made, if there is matter. Mr. Wallace recommends the potassa fusa if the skin is past hope of recovery.

6. When the ulcer is formed, it must be treated in accordance with general principles. It would be useless going into details. Change of air—the sea-side—every thing to invigorate, become more requisite than ever.

7. Mr. Wallace speaks highly of a mode of applying the nitrate of silver in these cases. If, he says, there be reason to suppose, as very frequently happens, that the diseased integuments can be saved, we are to proceed in an entirely different manner from that just mentioned. We should rub the nitrate of silver on the surface of the bubo, and of the surrounding diseased skin, previously moistened with tepid water, until the cuticle is rendered of a bluish colour to the extent of an inch beyond the diseased integuments covering the tumour. This application is adapted not only for the bubo prior to the discharge of pus, but even to the unhealthy integument around the ulcer.

This concludes what we have to say at present on the management of syphilitic bubo. If our younger readers receive any clearer notions on the subject we shall be amply satisfied.

PUBLICATIONS ON ANATOMY.

I. OBSERVATIONS ON THE STRUCTURE AND FUNCTIONS OF THE SPINAL CORD. By *R. A. Grainger*, Lecturer on Anatomy and Physiology. Octavo, pp. 159. London, 1837.

II. OBSERVATIONS ON THE GANGLIONIC ENLARGEMENT OF THE PNEUMO-GASTRIC NERVE; THE PROBABLE FUNCTION OF THAT GANGLION; AND THE POSITION WHICH IT OCCUPIES IN THE HUMAN SUBJECT AND IN SEVERAL OF THE LOWER ANIMALS. By *Mr. Edward Cock.*

[Guy's Hospital Reports, Oct. 1837.]

III. ON THE DISTRIBUTION AND PROBABLE FUNCTION OF THE SUPERIOR AND RECURRENT LARYNGEAL NERVES. By Mr. *John Hilton.*—IBID.

IV. DESCRIPTION OF THE SACCULUS OR POUCH IN THE HUMAN LARYNX. By Mr. *John Hilton.*—IBID.

IN the last number of this journal we presented our readers with an account of the major portion of Mr. Grainger's work upon the spinal cord—a work which fully merits attention both from them and from us.* Of the seven chapters of which it is composed, we gave a copious notice of four, and deferred to the present number an analysis of the remainder.

We shall say nothing at this moment of the paper of Mr. Cock, nor of those of Mr. Hilton, but devote to them, and to the subject of which they treat, the consideration they deserve anon.

I. ANATOMY OF THE SPINAL CORD.

We have already shewn that the principal interest of Mr. Grainger's volume, attaches to the anatomical development of the excito-motory system attempted in it. That system has attracted and must still attract so much attention, that the facts advanced in its support, as well as the reasoning employed for the same purpose, should be familiar to the bulk of the profession.

In our last number we arrived at the fifth chapter of Mr. Grainger's work. It is devoted to the exhibition of the "General Results" of the enquiries into the anatomy and physiology of the cord, contained in the preceding chapters. It would be useless, we conceive, to recapitulate the details of those inquiries, for which we may at once refer our readers to the article in our last number. We shall therefore proceed without further delay to those General Results to which we have alluded.

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* Vide No. 55, pp. 116, et seq.

a. General Results.

Mr. Grainger, in opening this chapter, again takes occasion to deplore the confusion which prevails in our ideas of the operations of the nervous system, and to hail the excito-motory theory as the light which dispels, or, at the least, diminishes the gloom. As he observes, the great object is to determine the true seat of sensation and volition. Whether he has done that or not, we shall not, at present, pause to enquire. Be this as it may, Mr. Grainger believes that the following axioms appear to be susceptible of proof.

> "1. That the source of all power, in the nervous system, is the grey matter.
>
> "2. That the white fibres are merely conductors.
>
> "3. That there exist, in the nervous system, two great divisions—a, the true cerebral; consisting of the hemispheres of the cerebrum, and the lobes of the cerebellum; of the true sensiferous, and the true volition fibres of the cranio-spinal nerves;—b, the true spinal; comprising the grey matter of the spinal cord, and the incident and reflex fibres of the cranio-spinal nerves.
>
> 4. That there is no special order of respiratory nerves.
>
> 5. That there is but one kind of sensibility possessed by animals; that, namely, which is perceived by the mind.
>
> 6. That this sensibility is, in the higher animals, the invariable and inseparable property of the cerebral hemisphere, inclusive of the lobes of the cerebellum; and, in the lower animals, of that part of the nervous system which can be shown to be, in office, the true analogue of the brain.
>
> 7. That volition is the inseparable attribute of the cerebral hemispheres, and lobes of the cerebellum.
>
> 8. That the spinal cord, in every class of the animal kingdom in which it exists; and the analogous part, in those animals in which, in consequence of variety of shape or other circumstances, this cord cannot be detected in the usual form, is the inherent seat of a property, totally distinct from sensation and volition, called the reflex power.
>
> 9. That the reflex power is never exercised, without the excitement caused by the application of a physical agent to the external and internal surfaces of the body.
>
> 10. That contractility is the special property of the muscular fibre.
>
> 11. That contractility has no necessary connexion with sensibility.
>
> 12. That contractility cannot be exercised without the application of a stimulus.
>
> 13. That this stimulus consists of—a, volition; b, the reflex power of the spinal cord; and, *perhaps*, c, of a direct application of a physical agent to the muscular fibre itself." 120.

On these axioms, Mr. Grainger comments individually.

1. In reference to the first and second, Mr. Grainger remarks, *that* the mode of connexion between the grey and fibrous substances of the nervous system being apparently uniform—*that*, the former being highly vascular—*that* innumerable torrents of blood incessantly rushing through the part where the two substances come together, and suspension of the power of the nervous system resulting from the total interruption of this current, even for a few seconds—the *true idea* of the nervous substance is, consequently, that it consists of white fibres, separated from each other by portions of the grey matter, and of incessant currents of blood rushing through the intervals. These considerations, joined to the facts which have been already adduced, leave no doubt as to the exact seat of the nervous power. How-

ever plausible, we must remember that this is still theory, and we must not be too satisfied with our knowledge of the properties of the grey and white portions of the nervous system, to induce us to relax in our enquiries, or to repose great confidence on what we appear to have ascertained.

3. We need not resume the discussion of the question regarding the true seat of the excito-motory actions. That question was considered as fully as the case admits at present, in our last number, and it would be useless re-opening it. But the following observations relating to another and a very interesting point, demand a notice. They refer to the respective functions of the anterior and posterior roots of the spinal nerves.

> "In the course of the experiments related in the previous chapter, it was often observed that on touching the *posterior* column of the spinal cord, motion was produced. This fact, which has also been remarked by several experimentalits, constitutes the principal ground-work of the objections urged against the doctrine of Bell. Although I am, myself, perfectly convinced of the exactness of the deductions drawn by this distinguished physiologist from his observations and experiments, and although they have been generally received by the first authorities of Europe; yet while such men as Meckel, Rudolphi, and Weber, still regard these doctrines as being conjectural, the question as to the functions of the anterior and posterior roots of the spinal nerves cannot be considered as determined.
>
> On irritating the posterior part of the spinal cord, it is, as I have stated, often observed that motion is excited. In connexion with this subject, Mr. Barron, with great justness remarked, that inasmuch as irritation of the incident nerves, where they terminate in the skin, excites muscular action, it must necessarily happen that when these nerves are irritated where they enter the spinal cord, a similar result will be produced. It is certain when the posterior surface of the cord is irritated, that sometimes the incident nerves will be touched, and whenever this occurs muscular action must take place. In this manner it is easy to reconcile those conflicting results, which have hitherto constituted an unexplained anomaly in the theory of Bell and Magendie." 124.

This is certainly an ingenious mode of explaining the phenomenon referred to. Whether it be the true one, or whether the whole subject is not still open to investigation, are points on which we shall not touch.

4. Dr. Hall has pointed out, what most physiologists had made up their minds to, that Sir C. Bell's theory of the "respiratory system" of nerves, however captivating, is fallacious. Dr. Hall modifies and extends that theory, so as to make it a piece of his own more comprehensive one, and probably his view is the correct one. He says—"I perfectly agree with Sir Charles Bell in the opinion that the respiratory is entirely distinct from the other subdivisions of the nervous system; but I venture to differ from him in viewing the respiratory as but *a part* of a more extensive system—as an *excited* and not a *spontaneous* function—as *originating*, when the cerebrum is removed, in the pneumo-gastric *as its excitor*, and not in the medulla oblongata."

Mr. Grainger adds that the reason of the great importance of the medulla oblongata, is because the pneumo-gastric, the "excitor" nerve of respiration is attached to it.

5. We are induced to extract the whole of the succeeding passage.

> "If it had not happened," says our author, "that physiological writers, in consequence of the difficulties which are involved in all the existing theories

had admitted two kinds of sensibility, animal and organic, one of which, it was supposed, was, and the other was not perceived by the mind, it would have been surprising that such a distinction should ever have been attempted. If we free ourselves for an instant of all these confused notions, it becomes evident that there is but one kind of sensibility,—for the very term sensation implies something of which the mind is conscious; thus, for example, if I touch a piece of wood with the finger, a certain effect is produced on the ends of the sentient nerves, which is called an impression; and this impression, when it has been transmitted to the brain, is by the agency of that organ perceived, and then, but not till then, sensation is produced. The blood makes an impression on the internal surface of the heart, but as this impression is not under ordinary circumstances transmitted to the brain, it is not perceived, and, consequently, sensation is not produced. By this illustration, it is not meant to be denied that the heart, the stomach, the intestines, &c., are endowed with a capability of receiving the impressions of the blood, the food, or any other physical agent; or that these impressions do not excite the muscular action of these organs. All I mean to express is, that these impressions made on the heart, stomach, and so forth, do not cause sensation—they excite motion but not feeling. If the term sensibility be employed to indicate simply the power which the nervous system, viewed in a collective manner, has of receiving every kind of impression, whether attended with perception or not, there is only an inexactness of phraseology, and not a positive error; but inasmuch as the opinions of many persons are influenced more by the words than by the facts they are intended to convey, it is indispensable to banish from physiology, a laxity of expression which has been productive of incalculable confusion. The terms sensibility and sensation which are generally used synonymously, although in fact the former is the cause, and the latter only the effect, ought in future to be restricted to sensation attended with consciousness, which, indeed, with the exception of physiological writers, is the meaning universally attached to the expression. As to that power which the true spinal cord possesses of receiving impressions which are not attended by consciousness, but which produce motion, it has no necessary connexion with sensation, and, therefore, should be distinguished by a separate name; and although the word is not free from objection, yet, as it corresponds with the name given to the phenomena which result from the property in question (the *excito-motory.*) The latter may be termed *excitability.* The source of all this fallacy has been clearly pointed out by Dr. Hall." 127.

We quite agree with Mr. Grainger on the inconvenience of the present nomenclature. Others have also pointed out that inconvenience, and endeavoured, but with indifferent success, to remedy it. Amongst these we may cite Dr. Bostock, who proposes a remedy which aggravates the distemper.

It would certainly be better to limit the terms sensibility and sensation to that power of receiving impressions, and to the actual reception of them, accompanied with consciousness. Physiological, philosophical, and common language, would then harmonize. The organic sensibility of Bichât is certainly a paradox in terms—implying as it does a sensibility without sensation. "Excitability" is in this sense less objectionable, and less liable to give rise to confused ideas. The criticism of Mr. Grainger, it must be seen, is only a verbal one, for no one, possessed of any information, conceived that the organic sensibility was any thing else than what is now proposed to be called "excitability," and the views of Bichât were just as correct on *this* head, as any that have sprung from the excito-motory hypothesis. The language employed was bad, but the idea represented was not. We think that in this, as in several instances, the ardent advocates of the "excito-motory" doctrines have flattered themeslves that they were doing more than they really were—have supposed that they were establishing new views when they were only using new words.

It does not appear to us that there are any further observations in this chapter which demand particular notice. We therefore pass to the succeeding one. It is entitled:—

B. THEORY OF THE FUNCTIONS OF THE SYMPATHETIC NERVE.

It is, on the whole, the general opinion that the ganglia of the great sympathetic are the seat of some degree of independent power. Dr. Wilson Philip, indeed, and some other physiologists suppose that the ganglia derive their energy from the brain and spinal cord. Dr. Hall thinks that the ganglions of the great sympathetic, and of the cranio-spinal nerves, constitute that part of the nervous system which ministers immediately to the nutrition of the internal and external parts of the body.

The theory of the dependence of the ganglia of the sympathetic on the brain and spinal cord appears to be opposed by many analogical and by some positive considerations. The latter are, first, the non-existence of both the encephalon and spinal cord in some cares of monstrosity; and, secondly, some circumstances mentioned by the late Dr. Fletcher. Thus, we learn from him, that although the rudiments of the spinal cord and brain are among the first parts visible, yet, that the ganglions speedily acquire a greater degree of development, and are relatively larger in the fœtus than after birth, so that whilst the cerebro-spinal system is still obscure, the sympathetic and its ganglions are very distinct in the embryo. It is further remarked, that the first portion of this system which becomes obvious, is the cardiac ganglion. As regards those cases of monsters, in which it is said that no trace of a nervous system of any kind could be discovered, it is probable, as Dr. Fletcher remarks, that attention was particularly directed to the existence of the cerebro-spinal, rather than of the sympathetic system, and that the latter might in an imperfect state have been present, although not detected.

Mr. Grainger believes that the ganglia of the sympathetic present a structure which is, with one most important exception, identical with that of the spinal cord, when it is regarded in a collective form; that is to say, as consisting of an excito-motory and a cerebral portion. This structure is more or less obscured, by the dence neurilema which the ganglia possess, and by the cellular membrane which dips into their interior. But, Mr. Grainger observes that, we find in the ganglia:—

1. Grey matter
2. Longitudinal and transverse commissural fibres, *ex. gr.* those joining the ganglions, in a longitudinal direction, forming the trunk of the nerve, as it is called; and those joining the ganglions, on the opposite sides of the body, as in the abdomen.
3. Fibres joining the sentient nerves, *ex. gr.* those going to the nasal branch of the trifacial and posterior roots of the spinal nerves.
4. Fibres joining the motor nerves, as those going to the third and anterior roots of the spinal nerves.
5. Proper fibres.

Mr. Grainger remarks that:—

"The great distinction between the spinal cord and ganglions is, that, whilst the cerebral fibres of the former organ transmit impressions which excite sensation and the influence of the will, the cerebral fibres of the sympathetic, only convey impressions which excite pain, as in morbid states of the intestine, and the influence of the passions." 136.

This is true to a great extent, but we question whether it is so entirely. It is probable that the sympathetic system is the vehicle of agreeable as well as of painful sensations. The "comfort" experienced from satisfying the appetites, appears to be a species of pleasurable sensation, conveyed through the medium of the sympathetic system

But we must proceed to Mr. Grainger's theory of the office of the ganglia of the sympathetic.

He conceives that they form a part, though in some degree an isolated one, of the excito-motory system. He adopts this opinion, because,—1, the quantity of grey matter contained in the ganglia seems to indicate that they are an independent seat of nervous energy; 2, the existence of the great sympathetic in all its integrity, in cases of deficiency of the cerebro-spinal axis, affords in itself a strong presumption that it forms a peculiar and independent division of the nervous system; 3, this view is further supported, by the very early appearance of the sympathetic ganglions in the embryo; and by their superior developement, when contracted with the cerebro-spinal system, in the fœtus and young child; or at those exact periods, in which the organs to which their nerves are distributed (those, namely, of nutrition), are so remarkable, for the activity of their functions; 4, as the actions of the excito-motory system are invariably the result of the application of a physical agent to the surfaces of the body, so "the contraction of all those organs to which the sympathetic is distributed, with the questionable exception of the kidneys, is incessantly being influenced by physical agents; that for the heart and blood-vessels, by the blood; of the intestinal canal, by the food; of the secreting canals, of the salivary glands, the pancreas, and the liver; also by the food, through the medium of their relations with the alimentary canal; of the testicle, in coitu; and of the uterus, by the fœtus."

Such are Mr. Grainger's reasons for concluding that the sympathetic is a part of the excito-motory system. Having gone so far, he endeavours, of course, to go farther. He thinks it necessary to discover the incident and reflex nerves by which its action is effected.

The sympathetic has, besides the commissural fibres and those by which it is connected with the cerebro-spinal system, a peculiar set of filaments. It is these which he conceives to constitute a true excito-motory system of nerves. If it was difficult to demonstrate the four orders of fibres in the spinal nerves, it must be impossible to distinguish the exact arrangement of the fibrils in the ganglia of the sympathetic. But fortunately there is a ganglion which suits Mr. Grainger's purpose admirably, and "seems to furnish" the clue he wants. It is the submaxillary ganglion. Its advantages result from the circumstance of its being, in a certain degree, isolated; and especially because the organ which receives the impression, the tongue, and those organs which contract, in consequence of that impression (the tube of the salivary glands), are separated from each other.

It will be necessary to extract Mr. Grainger's account of the anatomy of this ganglion, in order to lay his theory fully before our readers.

"The submaxillary ganglion," he says, "is neither placed on the chorda tympani, as Cloquet supposed; nor is it formed, as Cruveilhier asserts, by the most inferior fibrils of the lingual nerve. Professor Arnold, who has represented this nerve, has given the most accurate account of its connexions, which has yet been published; he has not, however, noticed all the branches of this little system, which may be received as the type of the great sympathetic. In reflecting upon this subject, I was induced to conclude, that, besides the branches which are furnished to the submaxillary gland, there must be others supplying also the sublingual gland; and, therefore, to determine this point, my colleague, Mr. Walker, dissected this ganglion, and the following is the result of a careful dissection. Many more branches than are figured by M. Arnold, are given off from the lower border of the ganglion, and enter the submaxillary gland; two or three others pass upwards, behind the gustatory nerve, then above and parallel to the Whartonian duct, into the substance of the sublingual gland; the latter twigs are not noticed by Arnold, Hildebrandt, Cruveilhier, Swan, nor, I believe, by any other anatomist. The branches, then, of the submaxillary ganglion, are,—1, to the great sympathetic; 2, to the chorda tympani; 3, from its upper and outer border twigs, to the gustatory nerve; 4, a second order of twigs, from the upper and inner edge to the gustatory nerve; 5, fibres to the submaxillary gland; 6, filaments to the sublingual gland. Notwithstanding the extraordinary number of different branches, each class of them is, doubtless, provided for a special purpose; and, without asserting any thing positively, it may be suggested that the fibrils of the first order are commissural branches, like those uniting the other ganglions together; that the second transmit the influence of mental emotions, which are capable of affecting all the organs supplied by the sympathetic, the effect, in this instance, being confined to causing a flow of saliva, on seeing or even thinking of food; that the third convey impressions to the brain, as in inflammation of the salivary glands, exciting pain; that the fourth are incident branches, arising from the surface of the tongue; that the fifth and sixth are reflex branches, going to the two glands. The flow of saliva during mastication, is generally supposed to result from the motions of the jaw; or from a kind of continuous sympathy, caused by the mucous membrane of the mouth entering into these glands; but it is much more in accordance with the manner in which muscular contraction in general is determined, to attribute this phenomenon to the impression made on the nerves of the tongue, by the food exciting, through the medium of the ganglion, the contractility of the secreting canals; a supposition which is rendered the more probable, by the well-known fact that certain substances act as sialogogues, (tobacco for example), by the irritation which they cause on the tongue." 141.

It must be admitted, that this anatomical explanation of the reflex function of the sympathetic appears, on a superfial examination, rather fanciful. But we leave it to its merits and its fate. Mr. Grainger observes, that, in the case of the saliva, there is an instance of a secretion flowing, in consequence of the contact of a physical agent, food, with what appear to be incident nerves. And on the whole he concludes with the majority of anatomists, that, in fœtal life, at all events, the processes of circulation, secretion, and nutrition are dependent on the agency of the sympathetic—an agency which he himself thinks must "almost certainly" be dependent on the "reflex principle." And, as general law, he conceives that the involuntary organs of the circulation and secretion never contract but upon the application of a mechanical stimulus to the extremities of the nervous filaments. He winds up the chapter and the subject with the following remarks:—

"Many considerations, the principal of which have been stated, induce me to suppose:—

1. That the great sympathetic consists of several distinct nervous systems, each of which is endowed with an independent power.
2. That every ganglion is provided with incident and reflex fibres which are necessary to the exercise of its peculiar power.
3. That the contraction of all the organs which are in a more especial manner supplied by the great sympathetic, is in every instance excited through the agency of the incident and reflex nerves.
4. That the power of the ganglions is invariably excited by the application of a physical agent to the incident nerves, distributed to the internal surface of the heart, blood-vessels, intestines, and secreting canals of all glandular organs.
5. That the sympathetic ganglions are connected together by commissural fibres; and to the cerebrum by branches which join the sentient and motor cranio-spinal nerves, by which impressions are reciprocally transmitted between the brain and the organs supplied by the sympathetic." 143.

On a narrow inspection, this hypothesis does not contain much that was not previously suspected, nor prove much that was not proved before. A new language is employed, and incident and reflex chequer the several propositions. But, after all, the comparative independence of the ganglia—their indifferently understood connexion with the cerebro-spinal system—the influence of the contents of the viscera on their action through the medium of the impressions made by those contents on their surfaces—are *ideas* not rendered more familiar, not better established on more certain grounds, nor much more satisfactorily explained, than they were by Mr. Grainger's predecessors, or are by his contemporaries. We may be wrong, but we do not perceive much advance on our pre-existing knowledge in Mr. Grainger's views of the functions of the ganglia. The subject, however, is one of extreme intricacy, and, possibly, Mr. Grainger may have furnished the clue to its final disentanglement.

C. THEORY OF MUSCULAR ACTION.

This forms the subject of the last chapter of the volume. Setting aside the prevailing opinions on the subject, opinions with which we need not trouble our readers, we may at once state Mr. Grainger's.

He believes that muscular contraction is only excited by three causes:—the first consisting of volition, the second of the reflex power possessed by the spinal cord and the ganglions of the great sympathetic; and the third by the passions, fear, joy, &c. The voluntary power is in Mr. Grainger's view the most limited, being confined to the muscles supplied by the cerebro-spinal axis, whilst the control of the reflex power and of the passions is exerted over every muscular organ in the body. In order to examine the matter more satisfactorily, Mr. Grainger notices separately the voluntary, the instinctive, and the involuntary motions.

A. *Voluntary Motion.* The gist of Mr. Grainger's observations on this head lies in the position that the actions of the voluntary muscles are not unfrequently excited, and due to the reflex function. The closure of the eye by the orbicularis on touching the eye-lash, is cited as a specimen. In other instances the motions are partly voluntary and partly excited, as in the familiar case of deglutition. Mr. Grainger contends that locomotion is in the same predicament, in other words, that walking depends in a great degree on the impression conveyed from the foot to the spinal marrow, and thence reflected to the various locomotive muscles. If this be the case there is no knowing where to stop, for all combined movements have as good or nearly as good a right to be excited as locomotion. As Mr. Grainger goes over ground which he and we have already trodden, we need say no more upon this head.

B. *Instinct Motions.* On this Mr. G. does not deem it requisite to dwell.

C. *Involuntary Motions.* Two great theories agitate and have long agitated the physiological world on the cause of the involuntary motions. By the one theory, action of the involuntary muscles is supposed to depend on the immediate contact of certain substances (of the blood, for instance, with the heart); by the other theory, their action is attributed to impressions on the nerves by which they are supplied. Mr. Grainger's criticisms on the former, perhaps the most generally received, hypothesis, are so just that we transcribe them.

"The theory by which the contraction of the involuntary muscles is referred to immediate contact with their fibres, is, when carefully considered, very unsatisfactory. It may, in the first place, be observed, that in no organ does actual contact take place; there is always a membrane interposed between the fleshy fibres and the contents of the organ. But, even allowing that where the muscular planes, as in the intestine, are so thin as to allow the food to approach sufficiently near to make the requisite impression, how can this be supposed to happen in the left ventricle of the heart, where there is such great thickness of the parietes? The only manner in which it can be imagined that the fibres towards the outer surface, or pericardium, are capable of being stimulated, is by an impression transmitted through the cardiac nerves; but such an explanation belongs to another and different hypothesis. This subject may be elucidated by considering the action of two structures, both of which are employed in the same office, that of propelling the food along the alimentary canal. In the fauces, it is not supposed, that the numerous muscle employed in that action are made to contract by the actual contact of the food; indeed, the relative situation of the parts implicated, some of the muscles being placed so remotely in the neck, renders such contact physically impossible. It is, indeed, not known that the process of deglutition is excited; but then it is supposed that when the food decends rather lower, and reaches the pharynx, œsophagus,* and intestine, that a new principle of muscular action is called into operation, and that contraction is effected, not through the medium of the nerves, but by direct contact with the muscular substance. This idea has doubtless originated from the membranous form which the muscular structure assumes in the œsophagus and intestine, and partly from the difficulty of unravelling the nerves of the abdomen. It is not, however, probable, that parts so very analogous to each other, as the œsophagus and fauces, and which are supplied by the same nerves, should have their action excited in two different modes.

With respect to what is called sympathy, it may be observed in general, that it is a word to which the most vague meaning is attached, but which is nevertheless very commonly employed, as if it explained the cause of some of the most important phenomena of the economy, whilst it is nothing but a term by which those phenomena are designated. The continuous sympathy which is said to be the cause of the saliva flowing into the mouth when this cavity contains food, is but an expression by which is signified the effect produced in the salivary glands, by the impression made on certain nerves of the mucous membrane of the tongue. The same error which has prevailed on so many other subjects connected with the properties of the nervous system, is particularly exemplified in the present instance; for whilst it is believed that sympathy is but a modification of sensation, it has been proved that this form, or continuous sympathy, is displayed by the flow of the saliva, gastric juice, &c., when all sensation has been destroyed." 154.

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* Professor Müller has very justly questioned the correctness of Dr. Hall's original opinion that the action of the œsophagus is caused by immediate contact. Dr. Hall has since modified his views on this point.

It is almost needless to add that Mr. Grainger is one of those who attribute the contraction of the involuntary muscles to the ganglionic nerves, the operation being of that reflex character with the ganglia as central axes, which was described in the chapter on the function of the sympathetic nerve.

One objection occurs to us. By Mr. Grainger's hypothesis the contraction of an involuntary muscle is of this nature. An incident fibre of the sympathetic nerve is excited by some stimulus—that incident fibre conveys the excitement to the ganglion—the ganglion thus excited originates the motive power—this is conveyed to the muscle by the reflex fibre—and so the muscle acts. Now it is clear that the ganglion in this view of the matter plays an essential part in the process, and if the ganglion be removed we do not see how the machinery of contraction is to work. If, in point of fact it *does* work, surely that must stagger our faith in the hypothesis.

This is not an imaginary difficulty. When the heart is removed from the body, and, of course, from connexion with the plexuses and ganglia, it still, if immediately immersed in warm water continues for a short time to contract with regularity. In Mr. Mayo's experiment, the auricular part of a heart removed from the body was separated from the ventricles, yet the alternate states of action and relaxation continued for a time to succeed each other. Now either the ganglia are not so necessary as Mr. Grainger supposes, or the nerves can retain the power communicated to them in some manner which Mr. Grainger has not included in his theory. That theory resembles in all essential respects, the theory of the reflex action of the spinal cord; the only difference being, that, in one case, the grey matter of the cord forms the centre, and, in the other, the sympathetic ganglia. Now, if in the former case, the communication with the cord is arrested, the reflex phenomena instantly cease—yet in the case of the organs supplied by the sympathetic, we do not find such to be the case. We mention these circumstances because they appear, at first sight, to be objections to Mr. Granger's views.

This gentleman anticipates much from these views, and, perhaps, with reason. He has carried the reflex theory farther than most others, and when he proves, or endeavours to prove, that even locomotion is in a great measure a series of excited actions, it will be evident that he goes some length. And so in fact he does, for he believes it "quite possible," that "the arms, mouth, and stomach of the polypi may seize, swallow, and digest its prey without instinct, sensation, or volition."

We have now concluded the examination of this work. Its demerits being slight, we may dismiss them first. The main fault is frequent repetition. The same ideas, the same facts, often the same language, re-appear in chapter after chapter, and form a rather tiresome rechauffé. Perhaps the author leans too much upon the reflex theory, and considers it as a discovery of greater magnitude than it really possesses. But the merits of the book far outweigh such faults, and it must be considered not only a valuable addition to anatomical knowledge, but as valuable an one to physiology and philosophy. It will direct the minds of exact inquirers to the examination of the "excito-motory" doctrine, and especially to the anatomical basis upon which it rests. Whatever may become of the doctrine itself, an acquaintance with the latter must necessarily lead to the discovery of truth. Before we dismiss the subject for the present, we are tempted to subjoin the classification of the nervous system, embodied in the appendix to the work. It shews at a glance Mr. Grainger's views, and the reflex theory in its most recently developed state.

"CLASSIFICATION OF THE NERVOUS SYSTEM, ACCORDING TO ITS PHYSIOLOGY.

I. SOURCES OF POWER.

Grey matter of — A, Brain; B, True Spinal Cord; C, Ganglions.

II. CONDUCTORS.

A. Fibres of the Brain; B, Fibres of the Spinal Cord; C. Fibres of the Nerves.

III. DIVISIONS OF THE NERVOUS SYSTEM.

A. Cerebral System.

- *a.* Convolutions of the Cerebrum and laminæ of the Cerebellum.
- *b.* Sensiferous Nerves, comprising the true sensiferous fibres of—
  1. Olfactory.
  2. Optic.
  3. Aubitory.
  4. Gustatory.
  5. Nerves of the Skin, viz. Cerebral Fibres of the portio major, of trifacial, and of the posterior roots of the Spinal Nerves.
  6. Nerves of the Mucous Membrane, viz. Cerebral Fibres of the portio-major, of trifacial, glosso-pharyngeal, pneumo-gastric.
  7. Sentient Fibres of the great Sympathetic, supplying the organs of organic life.
- *c.* Volition Nerves, consisting of the cerebral fibres of
  1. Oculo-motor.
  2. Pathetic ?
  3. Portio Minor of Trifacial.
  4. Abductor.
  5. Portio dura.
  6. Glosso-pharyngeal.
  7. Pneumo-gastric.
  8. Accessory ?
  9. Sublingual.
  10. Anterior roots of the Spinal.

- B. Excito-motory System.
  - 1. True Spinal System.
    - *a.* Grey matter of the true Spinal Cord.
    - *b.* Incident Fibres of
      - 1. Optic.
      - 2. Auditory.
      - 3. Portio major of fifth.
      - 4. Glosso-pharyngeal.
      - 5. Pneumo-gastric.
      - 6. The posterior roots of the Spinal.
    - *c.* Reflex fibres of
      - 1. Oculo-motor.
      - 2. Pathetic ?
      - 3. Portio Minor of Trifacial.
      - 4. Abductor.
      - 5. Portia dura.
      - 6. Glosso-pharyngeal.
      - 7. Pneumo-gastric.
      - 8. Accessory.
      - 9. Sublingual.
      - 10. Anterior roots of the Spinal.
  - 2. Sympathetic System.
    - *a.* Grey substance of the Sympathetic Ganglions.
    - *b.* Incident branches of
      - 1. The Ganglions of the trunk of the great Sympathetic.
      - 2. Cavernous ?
      - 3. Lenticular ?
      - 4. Spheno-palatine.
      - 5. Optic ?
      - 6. Submaxillary.
      - 7. Cardiac.
      - 8. Semilunar.
    - *c.* Reflex branches of the same Ganglions." 159.

II. ON THE GANGLIONIC ENLARGEMENT OF THE PNEUMO-GASTRIC NERVE.

The paper on this subject, which is brief, is contained in the Number of the Guy's Hospital Reports for October of last year. The author, Mr. Edward Cock, professes that he acts principally as the amanuensis of Sir Astley Cooper, following out the zealous Baronet's views, and enlarging somewhat his exclusive discovery. That discovery and those views, as well as Sir Astley's property in them, may be best introduced to our readers by a copy of the note in which they were introduced to Mr. Cock.

"MY DEAR EDWARD, "*April* 18, 1837.

"I have sent you the *superior laryngeal ganglion* of a rabbit, which I found last year (February 1836), whilst making the experiments I have published in the Guy's Hospital Reports on the Compression of the Carotid and Vertebral Arteries. I always thought it an objection to my friend Sir Charles Bell's opinion of the ganglia giving sensibility, that the laryngeal nerve, going as it does to parts of the most sensitive description, was not ganglionic. It gave me much pleasure to find this ganglion. If you put the nerve in water for five minutes, you will see the usual colour of a ganglion in the enlarged part from which the laryngeal nerve springs.

"Yours affectionately,
"ASTLEY COOPER."

It is well known that the pneumo-gastric nerves presents a slight enlargement at the external basis of the skull, just as it is leaving the foramen lacerum. This has been called a ganglionic enlargement; but no great degree of anatomical or of physiological importance has been given to it.

The general opinion with respect to the functions of the pneumo-gastric nerve assign to it the office of regulating, more or less, respiration, deglutition and digestion, of communicating its peculiar sensibility to the mucous membrane of the larynx, and of controlling the action of the muscles, of that part. The sensibility of the larynx, and the action of its muscles, are believed to depend on the superior and inferior laryngeal branches of the pneumo-gastric, though the precise part that is played by each is far from undisputed. Mr. Cock, indeed, assures us that:—

> "The distribution of the laryngeal nerves is, I believe, incorrectly given in all anatomical works. My colleague, Mr. Hilton, has lately taken much pains in the investigation of this subject; and the result of his dissections shew that the superior laryngeal nerve (after it has pierced the thyro-hyoideal ligament) gives off no muscular filaments whatever, but is entirely distributed to the mucous membrane. The crico-thyroideus is, therefore, the only laryngeal muscle supplied by it in the human subject; and in some animals, the crico-thyroidean twig will be found to arise, not from the superior laryngeal, but from the trunk of the pneumo-gastric itself. All the proper muscles of the larynx, with the exception of that just mentioned, receive their nerves from the recurrent branch alone." 313.

Thus, if these dissections be accurate, there can be little question that the superior laryngeal nerve is one of sensation, and the inferior one of motion.

If we now examine, says Mr. Cock, the spot where the nervus vagus leaves the surface of the medulla oblongata, we shall find that the nervous fibrillæ which compose it come off in close apposition; on the one hand, with the corpora restiformia, or common sensory columns of the spinal cord; and on the other, with those fibres of the corpora pyramidalia, or anterior motor columns, which Mr. Solly has traced, and described as passing into the cerebellum: so that, besides the origin which the pneumogastric is supposed to derive from the olivary bodies, comprising, no doubt, the greater portion of the nerve, and constituting its specific character, it likewise possesses every facility of position for deriving fibres from the anterior and posterior columns, or the motor and sensory tracks of the medulla spinalis. In short, Mr. Cock considers the superior laryngeal branch of the pneumo-gastric as a nerve of common sensation, and derived, with the exception of a few motor filaments, from the sensory column of the spinal cord—that it is analogous to the posterior roots of the spinal nerves—and that the ganglion is the ganglion belonging and appended to the sensory portion of the nervus vagus. In a note, Mr. Cock lays before the reader the following results of the various dissections he has made :—

> "From the dissections I have made, I have every reason to believe that the ganglion does not belong exclusively to the laryngeal branch, but extends its influence to numerous other filaments included in the trunk of the par vagum, and affording to the lungs, to the pharynx, œsophagus, and stomach, that faint but peculiar sensibility which they appear to possess—filaments which impart to the stomach the sensation of fulness when that organ has been distended with food; to the lungs, the 'besoin de respirer,' and the sensory functions

necessary for respiration alluded to by Bichat. In the sheep, where I was enabled to unravel the fibres of which the par vagum is composed, and trace with considerable accuracy their course and their connexion with the ganglion, I found the following arrangements to exist:—The pneumo-gastric trunk, as it left the base of the scull, might be said to consist of two orders or sets of filaments; viz., the ganglionic, and the ganglionless. The former terminated in the ganglion, where their fibrous character became lost after the manner of the posterior roots of the spinal nerves: the latter were continued downwards beyond the ganglion, having merely a cellular connexion with it, and resembled in this respect the motor portion of the fifth pair. Lastly, from the ganglion arose two sets of nerves: the one constituted the laryngeal; the other joined the ganglionless filaments mentioned above, and formed part of the trunk of the par vagum, descending to the chest. A careful dissection will bring to light a similar arrangement in the human subject, the horse, the ass and probably in other animals. (*Vide* Diagrams 5, 6, 7.) I may also observe, that the laryngeal nerve appeared to derive some very minute fibrillæ from the pneumo-gastric trunk above the ganglion. These might be either specific respiratory filaments, or motor muscular filaments, perhaps both." 315.

Mr. Cock remarks, in continuation, *that* the ganglion seems proved to belong to that class of ganglia which, apparently, are necessary appendages to all nerves of common sensation, because, both in colour and texture, it resembles those placed on the posterior roots of the spinal nerves; and *that* it belongs more particularly to the superior laryngeal nerve, because, in the larger animals greater accuracy of examination is practicable, the laryngeal branch may be seen to come off distinctly from the ganglion, and the position of the latter varies according to the origin of the nerve. Thus in the human subject, the ganglion is situated immediately at the base of the scull, and it is there that the laryngeal nerve is sent off. In the rabbit, the ganglion, and consequently the point where the laryngeal branch is detached from the pneumo-gastric trunk, will be found much lower down, or nearly in a line with the upper edge of the thyroid cartilage. In the dog, the ganglion is placed close to the lacerated opening, whence the laryngeal nerve descends very obliquely: in the ass, the latter is given off below the level of the larynx, and ascends to pierce the thyroid cartilage.

"The shape of the ganglion presents great varieties in different animals. In the dog, cat, rabbit, and rat, it is rounded and bulbous, projects on considerably from the pneumo-gastric trunk, and is immediately recognised on laying bare the nerve.

In the human subject, in the horse, the ass, and the sheep, it is more or less elongated or spindle-shaped; and is in great measure concealed by nervous fibrillæ, which pass over its surface without being connected by it, and which must be turned to one side, before the body can be distinctly brought into view. Generally speaking, the length of the ganglion will be found to bear a certain proportion to the length of the neck of the animal; and the varieties of shape and position which it assumes in different animals has probably no other object than to adapt it more conveniently to the surrounding parts." 316.

The paper is accompanied with a few diagrams, representing the ganglion in the rabbit, the ferret, the guinea-pig, the dog, the ass, the sheep, and the human subject.

As far as Mr. Cock has been enabled to ascertain, the glosso-pharyngeal nerve appears to be furnished with a ganglion, similar in all respects to that upon the nervus vagus.

The preceding paper is not an uninteresting contribution to our knowledge of the anatomy of the nerves.

III. ON THE DISTRIBUTION AND PROBABLE FUNCTION OF THE SUPERIOR AND RECURRENT LARYNGEAL NERVES. BY MR. JOHN HILTON.

Mr. Hilton confines himself to those portions of the superior and inferior laryngeal nerves, which relate more particularly to the functions of the larynx. He does not therefore allude to the former nerve until it gives off the crico-thyroid branch, nor to the recurrent nerve until it arrives at the middle of the trachea.

"The SUPERIOR LARYNGEAL NERVE, after detaching from its fibrous sheath the crico-thyroideal branch of the pneumogastric traverses the fibrous tissue occupying the interval between the thyro-hyoideal round, and the thyro-hyoideal broad ligaments: here some filaments are thrown into the cellular and fatty tissue investing the nerves and surrounding parts; after which, the distribution may be systematized into. 1. Ascending, 2. Transverse; and, 3. Descending.

1st. The ascending branches are from eight to ten in number: some of them take their direction upwards, forwards, and outwards, to the lateral fræna of the epiglottis, and the tissue immediately below the tonsil gland, where they are lost. Others pursue their course upwards and inwards, towards the epiglottis: they first pass rather on the glossal aspect of its margin, where some of them terminate; whilst the majority either perforate the epiglottis, or cross its margin in deep fissures, and are then very minutely distributed to the mucous membrane, submucous cellular tissue, and glands covering its laryngeal aspect.

The 2d, or the transverse filaments, enter the aryteno-epiglottidean folds; where two of them follow the transverse direction, and supply the cellular tissue at the anterior part of the root of the epiglottis; and then pierce it, to supply the laryngeal aspect of the same part of the epiglottis. Two or three small filaments of this transverse division of the nerve ramify amongst the glands; and appear to supply them, at the summit of the external wall of the pouch, which I discovered, and have described in this Number of our Hospital Reports. Other filaments of the same transverse series cross over the upper part of this sac; then descend, inclining forwards and inwards, to the anterior part of the rima-glottidis: some of them supply the anterior and inner aspect of the sac, the glands, upon it, and the mucous membrane on the superior chorda vocalis: the others, having arrived at the anterior angle of the rima-glottidis, near the apex of the epiglottis, communicate, in the median line, with the corresponding filaments from the opposite nerve; and some fibrils can be traced to the anterior extremity of the inferior chorda vocalis.

The 3d, or descending set, or rather branch (for the filaments comprising this series continue congregated into one chord for more than half an inch, and then diverge), is contained in the posterior part of the aryteno-epiglottidean fold, following its direction to the outer side of the arytenoid cartilage; when one filament continues vertical between the mucous membrane and crico-arytenoideus, and communicates with the posterior branch of the recurrent nerve. Several filaments are lost in the submucous tissue covering the arytenoid cartilages, and also that, between them both, on the laryngeal and pharyngeal surfaces; the latter, as far the lower edge of the cricoid cartilage. There are two filaments which wind round the external edge of the arytenoid cartilage, and enter the upper part of the arytenoideus-transversus muscle, one of these, the smaller, joins the recurrent filament to this muscle; the other curves round the posterior and internal edge of the arytenoid cartilage, and then, descending along the inner side of its base, obliquely downwards and forwards, is distributed, by minute fibrillæ, upon the inferior chorda vocalis and the membrane lining the internal surface of the cricoid cartilage." 516.

The INFERIOR OR RECURRENT NERVE, after taking a course, and sending branches to the œsophagus, &c. that we need not stop to describe, finally perforates the inferior constrictor of the pharynx: then rests, covering by mucous membrane, upon the posterior part of the crico-thyroideal articulation, in a groove between the inferior cornu of the thyroid cartilage and the crico-arytenoideus posticus, to which muscle it sends four or five filaments: one of them passes obliquely upwards between this muscle and the cricoid cartilage; crosses the upper edge of the cartilage; then enters the arytenoideus transversus, supplies it and the arytenoidei obliqui, and joins in the transverse muscle a corresponding branch from the recurrent of the opposite side, and a branch of the superior laryngeal.

"The further distribution of the recurrent nerve is by separate filaments, which enter, on their external aspects, the crico-arytenoideus lateralis and thyro-arytenoideus muscles. Two of the filaments which pass into the last-mentioned muscle go through it to its upper edge, and supply the aryteno-epiglottideas, superior and inferior." 518.

"In conclusion," says Mr. Hilton, "I think we may abstract from the preceding facts two highly interesting and extremely important inferences: 1st, That the superior laryngeal nerve is a nerve of sensation; because, independent of the crico-thyroideal nerve—for an explanation of which I must refer to Mr. Cock's Paper on this subject—it is distributed exclusively to the mucous membrane, cellular tissue and glands. 2dly, That the inferior or recurrent nerve must be the proper motor nerve to the larynx; as it alone supplies all the muscles which act immediately upon the column of air passing to and from the lungs." 518.

IV. DESCRIPTION OF THE SACCULUS OR POUCH IN THE HUMAN LARYNX.

BY MR. JOHN HILTON.

Mr. Hilton appears to consider this pouch no trifling matter, for he starts by saying, "I must denominate it *my* laryngeal pouch;" and he speedily takes occasion to assure us that he intends "very shortly to bring forward the *whole* subject in a more extended form, embracing the physiology." We are probably on the eve of a great work. At the end of the paper our expectations are a little damped, by the announcement, on our author's part, that his discovery was not quite what he had anticipated, the "pouch" having been described, though not very completely, by Galen, Morgagni, and M. Savart. We don't see how, after this, the pouch can be called Hilton's pouch; but it might, not inconveniently, be denominated "the pouch of Messrs. Galen, Morgagni, Savart, and Hilton." Thus each gentleman would get his share of immortality.

Mr. Hilton would suggest for *general adoption* the nomenclature which he employs himself; a reasonable request which many authors make, and some are disappointed in obtaining. Seriously, we would advise Mr. Hilton to adopt a more subdued tone in the publication of his anatomical discoveries. Had he made out the great facts which have been promulgated by Bell or Magendie, he could hardly have adopted a loftier tone. As it is, it is rather too much in King Cambyses' vein. We will present Mr. Hilton's account of the pouch, as the modern works upon anatomy contain no accurate notice of it, though Cruveilhier briefly describes it.

Mr. Hilton employs the following terms in the following sense:—

> "The superior opening of the larynx I shall call aryteno-epiglottidean, from its position; the inferior aperture between the inferior chordæ vocales, the rima ventriculi laryngis; the large or general cavity of the larynx, into which these open, ventriculus laryngis: the depression between the superior and inferior chordæ vocales, on each side, the fossa elliptica ventriculi; and the pouch I shall describe as the sacculus laryngis, or true laryngeal pouch, which terminates below, upon the fossa elliptica.
>
> There are also two other depressions in the ventricle of the larynx, one on each side of the epiglottis, between its edge and the superior chorda vocalis; these depressions I term the fossæ superficiales ventriculi. Into these fossæ superficiales, the submucous glands, arranged on each side, at the edge of the epiglottis, pour their secretion." 520.

We now pass to the description of the laryngeal pouch. Mr. Hilton describes it as extending upwards, on each side, from the fossa elliptica or space between the superior and inferior chordæ vocales, interposed between the internal surface of the ala of the thyroid cartilage and the ventricle of the larynx, terminating below upon the fossa elliptica, and bounded above by a large quantity of fat; and its superior part is crossed from behind, forwards, by the aryteno-epiglottidean folds. The pouch averages about half an inch, or more, in height; and if distended, reaches the upper edge of the thyroid cartilage. Its shape is not always the same: sometimes it is nearly conical, with its base placed inferiorly; sometimes pear-shaped, with its broader part superiorly; occasionally nearly cylindrical, and generally curved upon itself slightly backwards.

Mr. Hilton goes on to state that the opening into the fossa elliptica is nearly oval when the chordæ vocales are stretched backwards, but more circular if they are relaxed;—that the opening of the pouch is provided with two small semilunar folds of membrane, placed anteriorly and posteriorly with respect to the centre of the aperture;—that an extension of the pulmonary mucous membrane entirely lines the pouch, which is perforated by very numerous and minute openings, the terminations to the excretory tubes from the glands which surround and belong to this pouch, pouring their secretion into it;—that nearly the whole of the exterior of the pouch is surrounded by a peculiar fat, which conceals from view its proper glands.

Below the aryteno-epiglottideus muscle, as it is usually described, there is another muscle, to the sole property in which Mr. Hilton lays claim, and which he terms the *aryteno-epiglottideus inferior.*

> "The *aryteno-epiglottideus inferior* is easily brought into view, by taking off the mucous membrane of the ventricle of the larynx, immediately above the superior chorda vocalis, with a few small mucous glands which open upon it, some cellular tissue, and a few filaments of the superior laryngeal nerve: the muscle will then be seen passing from the arytenoid cartilage to the lower part of the epiglottis.
>
> The muscle arises, by a narrow and fibrous origin, from the arytenoid cartilage, just above the arytenoid attachment of the superior chorda vocalis: it

> passes forwards and a little upwards, and, becoming expanded, covers the superior half, or sometimes two superior thirds, of the pouch, on its laryngeal surface; and is inserted, by a broad attachment, into the edge of the epiglottis. The nerve supplying this muscle enters its upper and outer edge: it is derived from the branch of the motor, or recurrent laryngeal nerve, which supplies the thyro-arytenoideus. Its functions appear to be, to compress the subjacent glands, which open into the pouch; to diminish the capacity of that cavity, and change its form; to approximate the epiglottis and the arytenoid cartilage; and it will also have the effect of raising the surface of the fossa superficialis." 521.

On removing the aryteno-epiglottideus inferior, we come to a fibrous membrane investing the pouch and its glands, and forming an internal and superior support to the former.

On the external, or thyroideal, aspect of the pouch, is another muscle—the *thyro-arytenoideus*, which, from its situation and attachments, is calculated to act directly upon the pouch.

> "The glands belonging to, and proper to, the laryngeal pouch* are very numerous; as many as sixty or seventy may be distinguished. I have succeeded in injecting these glands with mercury. It is easily accomplished, in a fresh larynx, by submersing it in water for a few hours; then pressing the water out of the pouch; after which, the pouch is to be filled with mercury, when well-adjusted pressure with the fingers will be sufficient to inject nearly all the glands.
>
> These glands are not all of the same size or form: some are made up of several small lobes; the duct from each lobe terminating in a common excretory tube, which perforates the parietes of the pouch. The larger of these glands are situated at the outer, upper, and anterior surfaces of the pouch; the inner or laryngeal aspect being occupied, generally, by small glands, each having a distant excretory tube emptying itself into that part of the pouch nearest to it." 522.

The *nerves* of the pouch and of its glands are derived from the superior laryngeal.

Mr. Hilton concludes that the offices of such a pouch must be very important. They may, however, be easily summed up—to lubricate the chordæ vocales. How the arrangement of the pouch itself, of its muscular fibres, of its glands, of its fibrous membrane, and of its valvular sort of orifice, contributes to this end, we refer the curious to Mr. Hilton's paper for information.

V. THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by ROBERT B. TODD, M.D. &c. &c. Part XIII. Illustrated with numerous Engravings. February 1838.

WE are glad to perceive that this excellent work is continued. Unforeseen circumstances must have given it a shock, from which the energy of its editor was requisite to revive it. Let us hope that it has been revived effectually. The present number is not deficient in the signs of vitality and animation; on the contrary, it is redolent of life. This Cyclopædia has become almost a national work. It would be disgraceful to the profession in this country where it not patronised. We have no doubt that the uncertainty which hangs over the continuous publication, and the definite termination of works brought out in parts, has tended to damp the ardour of purchasers. When the work is complete we hope and we believe its sale will be proportioned to its merits, which are great.

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* "By employing the term 'glands proper to the pouch,' it will be understood, that I do not include or refer to the glands, hitherto described by anatomists, termed epiglottidean or arytenoidean glands."

The principal articles in the present part are—Gasteropoda, by Mr. T. Rymer Jones—Organs of Generation, by the same gentleman—and Physiology of Generation, by Dr. Allen Thomson. We shall present some notice of the latter article, which is best adapted for our pages. Our object will be to offer a sketch of the principal facts connected with the subject, which are now admitted by anatomists and physiologists.

PHYSIOLOGY OF GENERATION.

There is no single formula which will express the mode of generation in all the classes of animals—there are no circumstances in which all agree.

> "Some animals, for example, are propagated by the division of their whole bodies into pieces, each of which by a peculiar change becomes an independent individual entering upon a new life. Others arise like the parts of a tree by buds which remain for a time attached to the parent stem, and being afterwards separated from it assume an independent existence. A third class of animals have the power of forming and throwing off from their bodies a small portion of organized matter, which, though at the time of its separation from the parent, not resembling it either in form or organization, is yet possessed of the power of living for itself, and, after passing through a variety of successive changes of growth and evolution, and at last acquiring the exact semblance of the parent by which it was produced. In a fourth and last class, comprehending much the greatest number of animals, the function of reproduction involves a greater complication of vital processes than in the three other classes above alluded to. The union of two individuals of different sex becomes necessary, and the young owe their origin to the evolution of a more complex organized structure termed the egg, which is formed in and separated from the body of the female parent, and is the product of the union of the male and female of all animals in which the distinction of sex exists. The ovum or egg is most familiarly known to us in the eggs of domestic birds, to which the product of sexual union in all animals belonging to this fourth class bears a strict analogy in every essential particular." 425.

Though the complication of the generative process is usually proportionate to that of the organization of the animal, this is by no means universally true. Yet the function of reproduction will always be found to exert so important an influence on the economy, as to constitute one of the fundamental divisions in a classification of the vital processes.

The act of generation is highly curious, and no less curious than obscure. The inquisitiveness of science, and the passion of the vulgar, have alike made this a field for research, for wonder and for fancy. The speculations of philosophers have been greedily swallowed by the ignorant and the credulous mob, and a mass of absurdity, or at all events of the most crude hypotheses has received extensive currency and credence. The day has arrived for examining this, as well as the other phenomena of life, and if, in this as in other things, we soon discover the point at which our researches are arrested by the barrier of "ultimate facts," we discover also that generation is scarcely more mysterious than nutrition, nor more wonderful than the other phenomena of life, which are all wonderful.

Generation cannot be properly understood, if examined only in a solitary class. The mind, from contemplating an extensive object in a single point of view, receives a partial, perhaps, an erroneous idea, and is apt to generalize on an imperfect premiss. This has been eminently the case in this instance. The vast number of the theories of generation, precluded even their recital. Drelincourt, an author of the last century, says Dr. Thomson, brought together so many as two hundred and sixty-two "groundless hypotheses," concerning generation from the writings of his predecessors, "and nothing is more certain," quaintly remarks Blumenbach, "than that Drelincourt's own theory formed the two hundred and sixty-third."

1. *Classification of the Theories of Generation.*—Of these theories, writes Dr. Thomson, two principle classes may be distinguished, according as they more directly relate, 1st, to the action of the parent organs, or 2d, to the change in the eggs belonging to the formation of the new animals. Of the first of these classes of theories Haller made three divisions, according as the offspring is supposed to proceed, 1st, exclusively from the organs of the male parent, 2d, entirely from those of the female, or 3d, from the union of the male and female products. The second class of these theories, that, viz. which relates more particularly to the formation of the new animal, may be arranged under two heads, according as the new animal is supposed, 1st, to be newly formed from amorphous materials at the time when it makes its appearance in the egg, or 2d, to have its parts rendered visible, by their being expanded, unfolded, or envolved from a previously existing though invisible condition, in the germ.

"The greatest number," continues our author, "of the older theories of generation may then be brought under one or other of the above-mentioned divisions, viz. the theory of the Ovists, of the Spermatists, that of combination, Evolution, or Epigenesis.

According to the first-mentioned of these hypothesis, or that of the Ovists, the female parent is held to afford all the materials necessary for the formation of the offspring, the male doing no more than awakening the formative powers possessed by, and lying dormant in, the female product. This was the theory of Pythagoras, adopted in a modified form by Aristotle ; and we shall afterwards see that it resembles most closely the prevailing opinion of more modern times. The terms, however, in which some of the older authors expressed this theory are very vague, as, for example, in the notion that the embryo or new product 'is formed from the menstrual blood of the female, assisted by a sort of moisture descending from the brain during sexual union.'

According to the second theory, or that of the Spermatists, among the early supporters of which Galen may be reckoned, it was supposed that the male semen alone, furnished all the vital parts of the new animal, the female organs merely affording the offspring a fit place and suitable materials for its nourishment. Immediately upon the discovery of the seminal animalcules, these minute moving particles were regarded by some as the rudiments of the new animal. They were said to be minature representations of men, and were styled homunculi, one author going so far as to delineate in the seminal animalcule the body, limbs, features, and all the parts of the grown human body. The miscroscopic animalcules were held by others to be of different sexes, to copulate, and thus to engender male and female offspring; and the celebrated Leeuwenhoeck, who was among the first to observe these animalcules, described minutely the manner in which they gained the interior of the egg, and held, that after their entrance they were retained there by a valvular apparatus.

The theory of the Syngenesis or Combination seems to have been applied principally to the explanation of reproduction of quadrupeds and man, the existence and nature of the ova of which were involved in doubt. This hypothesis consists in the supposition that male and female parents both furnish simultaneously some semen or product; that these products, after sexual union, combine with one another in the uterus, and thus give rise to the egg or structure from which the fœtus is formed. In connexion with this theory we may also mention that of Metamorphosis, according to which a formative substance is held to exist, but is allowed to change its form in order to be converted into the new being; as also the notion of Buffon that organic molecules universally pervade plants and animals, that these are all endowed with productive powers, that a certain number are employed in the construction of the textures of organized bodies, and that in the process of generation the superabundant quantity of them proceeds to the sexual organs and there constitutes the rudiments of the offspring." 427.

The theories of generation, prior to the time of Harvey being based on few facts were either vague, or actually erroneous. When the Harveian dogma—"omne vivum ex ovo"—was generally admitted as established, theories changed objects, and the development of the fœtus in the egg, and afterwards, became the subject of inquiry and of speculation. Then arose the discussion on the respective merits of Epigenesis and Evolution, a discussion which can scarcely be considered as completely set at rest.

About the middle of the last century, Caspar Wolff supported the doctrine of Epigenesis in an elaborate and philosophical manner. He held that no appearance of the new animal is to be found in the perfect impregnated egg before the commencement of incubation, but that when the formative process is established by the influence of heat, air, and other circumstances necessary to induce it, the parts of the fœtus are gradually put together or built up by the apposition of their constituent molecules. Haller referred both to his own observation on the chick and to a variety of collateral arguments in support of the system of Evolution, holding that when the fœtus makes its appearance in the egg, it does so merely in consequence of the enlargement or evolution of its parts, which pre-exist, though in an invisible condition, in the egg. Bonnet carried this theory farther than any one else, but trusting mainly to the observations on Haller on the formation of the fœtus, he supported his overdrawn views on highly hypothetical reasoning. Bonnet, in what is termed the theory of Emboitement, held not only that the whole of the parts of the fœtus pre-exist in the egg before the time of their appearance, but also that the germs of all the animals which have been or are to be born, pre-exist from the beginning in the ovaries of the females; that the genital organs of the first parents of any species, therefore, contain the *germs* of all their posterity; that these germs lie dormant in their abode until one or more are aroused by the exciting influence of the male; and that consequently there is not in nature the new formation of any animal.

This is "going the whole hog." The nature of the inquiry renders a determinate conclusion difficult, if not impossible. Modern investigations have thrown the preponderance of probability on the side of Epignesis. But, for practical purposes, it is better to disregard all theory, and, studying the phenomena of the progress of the embryo to maturity, to apply to them the term Development, which expresses that progress unfettered by the weight of speculation. The following sentiments of Harvey are remarkable for their quaint and noble simplicity. Dr. Thomson quotes them from Harvey's 54th Exercitation.

> "But as in the greater world we say *Jovis omnia plena*, all things are full of the Deity, so also in the little edifice of a chicken, and all its actions and operations, *digitus Dei*, the finger of God or the God of nature doth reveale himself."
>
> "A more sublime and diviner artificer (than Man is) seems to make and preserve man; and a nobler agent than a cock doth produce a chicken out of the egge. For we acknowledge our omnipotent God and most high Creator to be every where present in the structure of all creatures living, and to point himself out by his workes; whose instruments the cock and hen are in the generation of the chicken. For it is most apparent, that in the generation of the chicken out of the egge, all things are set up and formed, with a most singular providence, divine wisdom, and an admirable and incomprehensible artifice." 429.

2. *Modes of Generation.* Whatever the precise mode of reproduction may be, the general law of Nature is, that organized beings proceed from organized beings, the two standing to each other in the relation of parent and progeny. But this general law is supposed not to be free from exceptions, and some of the simpler animals and plants are conceived to be produced spontaneously from decaying organic substances, under particular and appropriate circumstances. This species of production has received the name of spontaneous generation.

a. Spontaneous Generation. This is imagined to occur among cryptogamic plants of the nature of mould, small microscopic animalcules formed in infusions of decaying organic matters, and the entozoa which live in the bodies of other animals. The inquiry into the reality and the nature of this process is beset with many and almost insuperable difficulties. We have not space at present to go into the reasoning and experiments which have been advanced on the opposite sides of this question, and we shall merely observe that, on the whole, the evidence, so far as it goes, and imperfect as it is, inclines to the side of the occasional occurrence of spontaneous generation in the simplest forms of organic life. But this is the exception, not the rule, and, once formed, these animals or vegetables propagate their species in the ordinary manner. Having made this observation, we shall content ourselves with quoting the brief considerations urged by Dr. Thomson in favour of the occurrence of spontaneous generation in infusoria, mould, &c.

> "Firstly, those organic matters which are most soluble in water, and at the same time most prone to decomposition, give rise to the greatest quantity of animalcules or cryptogamic plants.
>
> Secondly, the nature of the animalcule or vegetable production bears a constant relation to the state of the infusion, so that, in similar circumstances, the same are always produced without this being influenced by the atmosphere. There seems also to be a certain progressive advance in the productive powers of the infusion, for at the first the animalcules are only of the smallest kinds or Monades, and afterwards they become gradually larger and more complicated in their structure; after a time the production ceases, although the materials are by no means exhausted. When the quantity of water is very small and the

organic matter abundant, the production is usually of a vegetable nature; when there is much water, animalcules are more frequently produced.

Thirdly, on the supposition that infusory animalcules are developed from ova, it is necessary to conclude, from the experiments already referred to, that these ova are in some instances derived from the atmosphere, but yet the number of Infusoria is by no means in direct proportion with the quantity of air. We are also reduced to the necessity of holding that every portion of the atmospheric air is equally impregnated with infusorial germs or ova, and that these bodies may remain for years dissolved, as it were, or invisibly suspended in the atmosphere, and in a perfectly dry state—a supposition contrary to analogy, and not fully warranted by the fact that Vibriones may be resuscitated by means of moisture after they have been kept in a dry state for long periods.

Fourthly, it may be remarked that the existence of ova, as belonging to many of the Infusoria, is entirely hypothetical, since most of these animals are known, when once formed, to propagate by other means, as by the division of their whole bodies or by budding.

The production of infusorial animalcules from solutions of granite, silex, &c. recently described by Mr. Crosse, we [illegible] no hesitation in pronouncing to be either a mistake, or the result of [illegible] occurring in admixed particles of organic matter." 431.

The Entozoa are still more decisive proofs of spontaneous generation.

b. Unequivocal Generation may be either non-sexual, or sexual. Non-sexual generation occurs among the simplest animals only—sexual, among the higher class of invertebrated and among all the vertebrated animals.

Non-sexual Generation may take place either by *division;* or, by *attached buds;* or, by *separated gemmæ.*

c. Fissiparous Generation. The most common form of generation by division, or fissiparous generation, is met with in some of the simpler infusoria, but occasionally occurs in animals higher in the scale. It consists in the division of the parent animal body into a certain number of subordinate masses each of which, being endowed with independent life, becomes a new individual similar to that of which it originally formed a part. In some of the Infusoria in which the process of subdivision has been minutely observed, fissures are seen to form in the sides of the animal which is about to be reproduced; these fissures gradually enlarge, and meeting with one another, completely separate the parts. In one kind of fissiparous generation the parent body is split into irregularly shaped masses, in some two in number, in different others, four, six, eight, or twelve, and in one, the Gonium pectorale, into as many as sixteen. Each of the subordinate masses, when first separated from its fellow, has an irregular shape, from which it gradually passes into the form and size of its parent.

In a second form of the fissiparous generation, the infusorial animal is divided into two equal and symmetrical halves; in some instances in a longitudinal direction, as in Baccillaria and some Vorticellæ; in others in a transverse direction, as in Paramœcium, Cyclidium, and Trichoda.

"A fissiparous kind of generation is not, however," continues Dr. Thomson "confined to the Infusoria, but occurs also in some of the Cestoidea and Annelida. The most remarkable example is met with in the Nais and Nereis. In the first of these genera, a small portion separated from the tail becomes the new animal. Before the actual separation of this caudal portion, it is marked off from the rest by a notch, and there are gradually formed on its sides the joints, hairs, and other indications of the organs of the complete animal in miniature. The notch enlarges, and the part at last drops off capable of independent existence. In the Naïs, that part of the offspring by which it is attached to the parent becomes the head, and in this way, according to the singular notion of Gruithuisen, who observed this sort of reproduction with attention, the tail of a Nais may be considered as gifted with perpetual life, since this part is extended into each of the new descendants." 432.

The multiplication of individuals by division, which happens occasionally, or by accident, in several of the lower animals, may be regarded as analogous to fissiparous generation. The most remarkable instances are in Polypi, Entozoa, and Annelida. When the Hydra viridis is cut through either longitudinally or transversely, each segment continues to live and grow, and is gradually furnished with those parts of the body of which it was deprived by the division.

d. Gemmiparous Generation. In this the second form of non-sexual reproduction, the new individual grows upon the parent as a bud or sprout, at first exhibiting little appearance of the form or structure of the perfect animal; gradually assuming its form while still attached to the parent stem; and being afterwards separated to enjoy independent existence.

"The best known examples of this kind of generation occur in the polypine and coralline animals, and the process has been observed with great attention by Trembley in the Hydra viridis. In this animal the young polype makes its first appearance as a small conical eminence on the body of the parent: this gradually enlarges and becomes cylindrical; a cavity is formed in its interior, which at first is separate, but afterwards comes to communicate with the stomach of the parent, so that aliments taken by the parent penetrate into the stomach of the offspring. As the new polype enlarges, the internal cavity opens at the free extremity, where a mouth, provided with tentacula, is formed. The young animal then catches and swallows food for itself: this food at first finds its way into the stomach of the parent, but after some time all communication between the two stomachs is prevented by the closure of the root of the stem of the small polype; and afterwards the offspring is detached from the parent, becomes a separate individual, and in its turn propagates new ones from its sides. The time at which the separation takes place seems to depend in some measure on the quantity of food within the reach of the parent; this occurring at an early period when the supply is small, and when there may be supposed to be necessity for the young to move about from place to place in search of sustenance. Sometimes indeed the separation is much retarded, and the young ones also propagate while remaining on the parent stem; so that the polype assumes a branched form, the parent stem bearing families of several generations." 433.

e. Generation by Separated Buds or Sporules.—In the last form of non-sexual reproduction the young are formed from small detached masses, after they are separated from the body of the parent. These bodies, generally of a rounded form, may be regarded as buds formed in the parent body, as those of polypes are, but detached from it before the evolution of the new animal begins. They bear the same relation to the offspring as the egg of higher animals to their fœtus or embryo. They are denominated sporæ, germina granulosa, and gemmæ, or germs. They are *supposed* to differ from ova, in being homogeneous in their structure, having no investing membranes, and being entirely converted into the substance of the new animal produced from them.

In some animals these sporules are formed in all parts of the body indiscriminately, and are therefore found dispersed through it; in others there is present a peculiar organ in which they are formed, constituting the simplest form of a reproductive organ. The latter is the more frequent arrangement, and obtains in the greater number of the lower tribes of Mollusca.

f. Sexual Reproduction.—This essentially consist in the existence and action of two classes of organs. One, the female, produces the ovum—the other, the male, a fluid which fecundates it.

g. Hermaphrodite Generation.—When both kinds of organs exist in the same individual, it is termed hermaphrodite. This arrangement chiefly holds in animals belonging to the Annelida, Acephala, and Gasteropoda.

> "In Hermaphrodite animals there are two modes in which fecundation takes place. In some of the Acephala, and in the Holothuriæ, the union of the sexual organs necessary for fecundation takes place in a single individual; while in others, as Helix and Lymneus among the Gasteropoda, copulation or the union of two individuals, is required, and there is mutual impregnation, the female organ of each animal being fecundated by the male of the other,—a mode of impregnation which also exists in the common Earth-worm, Leech, and some other animals. Occasionally we find that three or more individuals engage in this sort of mutual fecundation, being arranged in a chain or circle." 435.

h. Diæcious Reproduction.—When the sexes are distinct, and copulation necessary, the modifications of the generative process hinge chiefly on the mode in which the new animal springs from the egg. When the female parent lays the egg, and the young being is subsequently hatched from it, the mode of reproduction is termed oviparous. When the young are born alive, the generation is called viviparous. Mammalia are generally in the latter category; birds, most reptiles, and fishes in the former.

> "In both these classes of animals ova are formed from the ovary, and in both the ova are fecundated within the body of the female parent. The process by which the egg is separated from the place of its formation, and the changes it undergoes in being perfected after its separation, are the same in both; but after the fecundation and completion of the egg, it is differently placed in the two classes of animals; for in birds the egg passes through the oviduct and leaves the body of the female parent, to be hatched into life under the influence of favorable external agents; while in the mammiferous quadruped the egg remains within the uterus of the female generative organs, becomes attached to it, and has there formed from it the young animal which does not quit the body of the parent until it is capable of independent life. The egg of the bird leaves the body of the mother provided with a considerable quantity of organic matter, by which alone, under the influence of heat and air, the embryo is nourished during incubation. The egg of the mammiferous animal is extremely small compared to the size of the young animal at birth, and the fœtus consequently draws a continual supply of the materials of its nourishment from the uterus of the mother. with which it is more or less intimately connected. The residence of the child or young animal in the body of the mother during its formation and growth is termed pregnancy, or utero-gestation." 435.

Some animals bear their young alive, yet the generative organs of the female, as well as the ova themselves, resemble much more closely in their structure those of oviparous than those of viviparous animals. This mode of reproduction consequently gets the name of ovo-viviparous. We do not think it necessary to dwell at greater length upon these points at present.

We pass over the consideration of some varieties in respect to utero gestation, and the development of the young, marsupiate generation, monotrematous generation, and a comparison of animals and vegetable reproduction, in order to arrive at the generative function in man and the higher animals. Nor do we think, that, in them, we need dwell on the organs of generation in the respective sexes, or menstruation, puberty, sexual feeling, erection, or so forth, circumstances with which our readers must all be more or less familiar, and on which our author sheds no new light.

3. *Changes in the Female Organs, consequent on Fruitful Sexual Union.*

a. The immediate consequences of sexual union is the great excitement of the internal generative organs of the female, and sanguineous turgescence in them. This endures for some time.

b. The fimbriated extremities of the Fallopian tubes embrace the ovaria closely,

c. The ovarium, unimpregnated, contains the Graafian vesicles. These are filled with fluid coagulable by heat, alkohol, or acids, &c. The membrane forming the vesicle consists of two layers, an external and internal.

In 1827, Baer made the important discovery of the ovum itself, in the fluid contents of the Graafian vesicle.

"Baer found that, in the centre of a granular layer, placed generally towards the most prominent part of the vesicle, to which he gives the name of proligerous disc or layer, there is fixed a very minute spheroid body, seldom above 1-200th part of an inch in diameter. The appearance of this body he found to be constant, and on examining it with attention in the vesicles of the ovaries, and after their rupture in the Fallopian tubes, he traced the changes that it underwent in the first days after copulation, and established satisfactorily the identity of this body with the ova found by previous observers in the Fallopian tubes and cornua of the uterus; thus proving by actual observation what had before been held only from analogy, that in the mammiferous or truly viviparous, as well as in the oviparous animal, the fœtus derives its origin from an ovum already formed in the ovary before the fecundation.

Some time after sexual union the fluid contains in the vesicles which are about to burst, previously transparent and nearly colourless, now becomes more viscid and tenacious, somewhat turbid and of a reddish colour; and in some animals it is possible in such ripe vesicles to perceive, with the unassisted eye in a favourable light, a whitish opaque spot on the most prominent part, indicating the layer of granules or proligerous disc, in the centre of which the ovum is situated. After a certain time a small opening is formed at the most prominent part or the coverings of the vesicle, the vesicle bursts, and its contents escape through the opening; they are received in the infundibulum, which is now applied firmly against the ovary: and the ovum entering the Fallopian tube is conveyed along it, probably by its slow and gradual vermicular contractions, until at last arrives in the uterus." 449.

d. After the Graafian vesicles have burst, important changes occur in them and in the neighbouring ovary.

In the vesicle which is about to burst, the blood vessels at its most prominent part converge to the point at which the rupture afterwards takes place, the point itself being comparatively deprived of them. When the vesicle is emptied of its fluid, their place is supplied by effused blood.

"The membrane of the vesicle at this time have become thicker than before: the inner one in particular appears more vascular and uneven, perhaps in part from its being puckered up on the vesicle becoming flaccid and comparatively empty. The wrinkled appearance on the inner surface of the vesicle increases, and there grows gradually out from it new substance which comes to occupy the whole cavity of the vesicle; and in many instances, as this new substance is formed in greater quantity than can be contained within the limits of the vesicle, it protrudes some way out at the opening of the vesicle, forming a dark red prominence like a nipple, which rises above the neighbouring surface of the ovary. This substance, at the time of its first formation, is of a pink or reddish colour, but as it becomes gradually less filled with blood it acquires a yellowish hue, which is more or less apparent in different animals. In the human species it is of a bright yellow colour, whence the name of corpus luteum applied to this new production of the ovarian vesicles. The substance of the corpus luteum has a lobular structure; the lobules radiating in a somewhat irregular manner from the centre to the circumference. The central part of the corpus luteum frequently remains hollow for some time after its production, opening exteriorly by a narrow passage from the place where the rupture of the vesicle originally took place; at other times this passage is closed more early, and there remains nothing but an indicating of its place in a depression in the centre of the most projecting part of the corpus luteum. The lobules of the corpus luteum, examined with the microscope, exhibits merely a granular structure, and are not formed of acini, as some have described them, so that there is no reason to consider these bodies as of a glandular nature." 449

In woman, the corpus luteum attains the size of a hazel nut—afterwards it decreases, and either wholly disappears, or leaves only a small cicatrix. It continues during pregnancy, and diminishes with comparative rapidity after it.

In the sow and mare, venereal excitement causes rupture of the ovarian vesicle, and all the subsequent changes. In the human female, this occasionally happens. Corpora lutea in her are not certain signs of sexual union. But it is only when conception and pregnancy occur that they attain their full dimensions, and run through the whole serses of their changes.

The use of the corpora lutea are unknown.

Here is a natural pause. The changes of the ovum will form a distinct article on a convenient opportunity.

NOTES ON THE MEDICAL HISTORY AND STATISTICS OF THE BRITISH LEGION IN SPAIN; COMPRISING THE RESULT OF GUN-SHOT WOUNDS, IN RELATION TO IMPORTANT QUESTIONS IN SURGERY. By *Rutherford Alcock*, K.T.S. &c., Deputy Inspector-General of Hospitals, with the Auxiliary Forces in Portugal and Spain. Pp. 101.

WE have perused the "Notes on the Medical History and Statistics of the British Legion in Spain" with no inconsiderable degree of interest, as well as pleasure—the former from the mass of useful information condensed in so small a space—the latter from the gratifying conviction that our professional brethern are not unmindful of the interests of the profession, although surrounded with difficulties, dangers, and privations of the most formidable description

It is not less pleasing to us to observe that Mr. Alcock, in the very outset of his work, pays the tribute he considers due to the officers of the medical department of the Legion, for the zeal, ability, and steadiness of purpose with which they encountered dangers the most fearful, difficulties the most trying, and fulfilled the arduous duties imposed upon them with a perseverance alike creditable to their courage and honourable to their feelings—he says

> "I fell there is another duty to perform—that of rendering justice to the zeal, ability, and courage, of a numerous medical staff, who entered the service regardless of the taunts and sneers at home, and where neither prevented by privation nor danger from discharging their duties faithfully, during a period abounding in both."

No stronger proof can be given of the danger to which the medical officers were exposed than the fact as stated by Mr. Alcock, that "seventeen" died during the period of service, and "fifteen of these in the first Winter."

The author has very properly divided his treatise into two parts—the first comprising the formation of the Legion,—its march to the interior of the northern provinces of Spain,—its heartrending sufferings and losses in Vittoria, Bribiesca, and Santander, and eventual return to the north coast—the second extending from that period to the termination of the service, wherein is detailed the most active and truely valuable portion of the services of the Legion, and at the same time furnishing the medical enquirer with an abundance of highly useful and instructive facts resulting from the treatment of fifteen hundred cases of gun-shot wounds.

With respect to the policy that led troops raw and undisciplined, as were those of the Legion, on the approach of Winter, to a distance from the coast, we have nothing to say beyond the expression of our conviction as medical men, that to this unnecessary, and to us unjustifiable act, is to be attributed in a great degree the last of miseries and misfortunes, of the worst description, that befell the troops, together with a sacrifice of life that is absolute appalling, during the period of their service in Bribiesca and Vittoria. To this may be added the total disregard, on the part of the Spanish authorities of every principle of honour, humanity, and feeling, in withholding from the Legion the very necessaries of life, and sacrificing at the shrine of their jealousy and national hatred of all foreigners, not only the property of the government, but the lives of those who came to shed their blood in the cause of their Sovereign.

In the Autumn of 1835, between seven and eight thousand recruits for the Legion were assembled on the north coast of Spain, at Santander, Bilbao, and San Sebastian. Of these about 3,500, were English, 2,800 Scotch, and 1,800 Irish—in addition to which, during the period of service, at different intervals, recruits were sent out probably amounting to 1,500. In the selection of these men, the most disgraceful and wanton abandonment of all rule was most pertinaciously persisted in throughout; and it becomes a matter of some difficulty to determine whether the agents in this country were the most to blame in the choice of men, or the Spanish authorities in Vittoria, for the utter neglect of everything that was requisite even for their very existence.

The author proceeds to notice the peculiarities, physical and moral, of the men of the three countries, from which he draws conclusion of the highest importance, both in a medical and military point of view—conclusions which, when fully established as general rules, must necessarily become of the first consequence to the Legislature. He observes—

"The English were upon the whole a bad class as to physical capacity—the same observation applies to the Scotch, who were chiefly from the manufacturing towns—the Irish were, undoubtedly, of all the Legion, the men who were physically and morally the best adapted to the service. It often seemed to me that both English and Scotch were quite capable of growing thin, miserable, and sick, upon the moody anticipation of evils and privations, while the reality itself seldom broke down the Irishman—and never until it produced actual disease."

In support of these opinions the author states that, during the first Winter at Vitoria, "one third nearly of the English brigade of infantry was swept into the hospitals with great rapidity—the Scotch next, about one fifth—and the Irish in a comparatively moderate proportion, probably not more than one eighth." It appears consequently from these statements that the Irish are, of all British troops, the best calculated to encounter privation and hardships, and to ward off, by their peculiar elasticity of animal spirit, diseases and dangers under which the less volatile part of our nation rapidly succumb.

During the period of service the total number of cases treated may be stated "in round numbers to be 14,000, and the deaths in hospital including wounded 2,000, making the proportion of deaths to cases treated one in seven, or of deaths to the whole force about one in four and two thirds."

The disease which thinned the ranks of the Legion in Vitoria appears to have been of a low typhoid character, some of the worst features of which, may, with much probability be referred to the wretched state of the men, as regarded clothing, bedding, and in short every comfort as well as necessary: the inferior quality of the provisions—their deficiency in quantity—and last, not least, the strong probability, that by far the greater portion of those who fell victims to the disease, were men of profligate and debauched habits, whose constitution, already deteriorated, had no power to resist the debilitation and combined influence of privations and disease. These circumstances may in some degree, account for the vast number of cases of gangrene of the lower extremities supervening on the fever, which occurred in the hospitals of Vitoria.

"Although," observes Mr. Alcock, "exact data on the subject are wanting, I cannot be far from the truth in stating, that, I saw three hundred cases of gangrened extremities."

Having, with great difficulty obtained the Convent of San Antonio, as a surgical hospital, we are informed that—

"Here a great number of amputations were performed at the tarsal and metatarsal articulation, and across the metatarsal bones, also of both legs; for it was rare that one foot or leg alone was involved. These were necessarily performed under very unfavourable circumstances, on patients debilitated by fever and dysentery—of the result, I cannot however, give more than a return of those who recovered and were at Santander when I visited that depôt, although this number is not probably more than a fifth of the number of operations.

Amputation of both legs	6
Amputation of one leg	1
Partial amputation of both feet	2
Partial amputation of one foot	3
	12"

That so small a number of those operated upon, for gangrene of the lower extremities, recovered, can scarcely excite our wonder, on reflecting that all of these had passed through the ordeal of a disease which left its withering influence, for months after convalescence, even upon the most favoured and robust constitution.

The usual course of the disease is thus described by our author:—

> "The patient felt for some days a general *sensation* of lassitude, frequent nausea or even vomiting, attended with pain of the head only, or in others down the spine, sometimes extending to the whole frame. A disordered state of the bowels, diarrhœa more or less violent and frequent, very often was an attendant, though less prominent subject of complaint. No longer able to perform his duty, the patient would at last report himself; and this preliminary stage varied much in duration, from twenty-four hours to as many days, but more generally from two to five days. On examining the patient, the medical officer would often find a full pulse, flushed face, dry, hot skin, violent pain of the head, a crusted or loaded state of the tongue, with total prostration of strength; at other times greatly diminished vitality, purple and lived countenance, or skin shrunk. Delirium very quickly supervened. The tongue and fauces became dry and hardened, the lips loaded with sordes. Dysentery became developed, the rapid decline of the pulse and all the powers of life followed, and from the tenth to the twentieth day the patient died.
>
> During this period the feet, partially or entirely, sometimes including the whole of the legs, would run rapidly through all the stages of gangrene. In others again, dysentery and its train of symptoms presented the leading feature with the same fever quickly supervening, running a still more rapid course."

From the disgracefully inefficient manner in which Mr. Alcock states the hospitals to have been supplied with stores of every description, and especially medical ones, it is not surprising that a mortality of between two and three hundred per month, for three months in succession, should have been the painful result:—but we turn with feelings of mingled sorrow and disgust from the contemplation of sufferings, heartrending beyond description, (sufferings, too, that derived their principal source from the perfidious conduct of those, whose interest it was, in every point of view, to have adopted a different course) to the second part of this eventful history, over the commencement of which, at all events, brighter prospects and better hopes appeared to dawn.

To the medical world this is unquestionably the most interesting and valuable part of the work, as many facts and results here authenticated, contribute in no slight degree towards the confirmation of some important points in military surgery.

The establishment of good and efficient hospitals at San Sebastian, together with their vicinity, generally, to the scenes of action, rendered the duties of the medical officers less painful than heretofore, and in some measure compensated the soldier, for the privation and miseries so unsparingly inflicted upon him, in the interior of the country.

The surgical hospital, part of the Convent San Telmo, capable on an emergency of containing eight hundred patients, appears to have been peculiarly well adapted to the purpose for which it was applied.

> "The great thickness of the Convent walls assisted to keep the wards cool in Summer and warm in Winter; so that with order and cleanliness, which was strictly enforced, the whole hospital was perfectly free from all bad odour and the establishment was provided, after the first week or two of its formation, with

diets of excellent quality and with every thing most necessary to the efficient treatment of the wounded and the regularity and good arrangement of a military hospital.

The patients were carefully classed according to their injuries—an arrangement, which the author very justly observes, he has "ever considered of great importance and productive of not less advantage to the patient than the surgeon."

Before noticing the results of the various actions we would most willingly, did our limits permit, enter fully upon the very valuable observations of Mr. Alcock in respect to the transport of wounded from the field, as well as the formation of a corps whose services should be especially devoted to the hospital department and independent of every other command, save the head of that branch of the service—but of this, as of very many other parts of these highly interesting "Notes," we are unable to give a brief and general outline, and we refer our readers to the work itself. The first action of any importance in which the troops of the Legion were engaged was that of the 5th of May, 1836, when an attack was made upon the triple lines of defence thrown up by the enemy in front of San Sebastian, and which was followed, at intervals, by others in the order given below. The returns from the 5th May do not commence before the 9th day—

"All very slight cases and a proportion of the most severe injuries having before that time disappeared, gives a total of 382—mortality 1 to 9 11-43.

Defence of the Lines on the 6th of June, 1836,—66—mortality 1 to 6 3-5.

Defence of the Lines 1st October, 1836—158—mortality nearly 1 to 6.

Several successive attacks on the entrenched Lines of the enemy during three days in March, 1837, and the battle in position on the 16th—396—mortality 1 to 6.

Storming of Irun 16th and 17th of May, 1837—83—mortality 1 to 5 3-16.

Wounded resulting from these and all minor affairs in Guipuscoa, from May, 1886 to June, 1837, admitted into hospital give a total of—1351—mortality nearly 1 to 7.

In considering the mortality in the different classes of wounds, beginning with gun-shot *injuries of the head* producing fracture, we find the general return gives 28 cases of fractured skull, of which 22 died, giving an average mortality of 1 to 11 3-11.

Scalp wounds—61—2 only died.

Penetrating wounds of thorax—38—2 discharged to duty.

Penetrating wounds of both thorax and abdomen—3 occurred and all died.

Penetrating wounds of the abdomen from gun-shot, 19—only one recovered.

Penetrating wounds of joints—37 admitted into hospital—21 died.

Gun-shot fracturers of the femur, 32—11 partial—21 complete.

Of the 11 partial—3 died.

Of the 21 complete—16 died.

Fifteen of the 21 were "reserved for treatment"—of these three cases of secondary hemorrhage, for which, in two cases, amputation was performed—1 died—1 recovered—and in the third, the state of the patient forbade amputation, and the femoral artery was tied at its upper third; sphacelus of the foot supervened, and on the 10th day return of hæmorrhage and death. The artery and vein were found ulcerated. The ligature was applied about three quarters of an inch above the giving off of the profunda. *The channel of the lower portion was perfectly unobstructed*—proving as the author correctly observes—"the soundness of the principle which establishes the necessity of securing both ends of a wounded artery whenever it be possible."

The result of these cases reserved for treatment and the preparations shew

"How inadequate are even Nature's *vigorous* efforts to repair the mischief almost invariably the result of a gunshot fracture of the femur. These cases and the preparations resulting, are calculated to establish several other data of importance, viz:—

1st, That there is a relative and proportionate activity of the absorbent and secreting vessels established during the progress of cure.

2nd, That the different functions and actions brought into play by the fracture, in the bone and surrounding parts, particularly in the periosteum, have a constant and injurious tendency to extend far beyond the seat of injury, and the limits where their action would seem alone required or beneficial.

3rd, That loose fragments are readily cemented together, and do not necessarily, nor frequently become foreign bodies; consequently that no harassing operations should ever be performed to remove them.

Of gun-shot fractures of the leg, not complicated with injuries to the joints, there were 57 cases, of which twenty died—1 to 2 17-20.

Of gun-shot fractures of the humerus not implicating joints, 31, of which 11 died—1 to 2 3-11.

There were 52 cases of gun-shot fracture of the hand and forearm, of which 3 died.

The general severe wounds amount to 403 of which 45 died; as nearly as may be, one ninth; nine of these from tetanus.

Out of 1,500 cases of men and officers, no case of secondary hemorrhage occurred in simple wounds without fracture. There were 12 cases, however, of secondary hemorrhage, many of which required ligatures."

Before concluding we shall briefly notice another most important question, namely—that of

"Delayed amputation—three periods have been defined for amputation, the

1st, Comprising the period between the receipt of the injury, and the appearance of the inflammatory symptoms.

2nd, When the inflammatory action has commenced and is more or less capable of disturbing the animal economy.

3rd, When the violence of the inflammatory symptoms and symptomatic fever have abated; that is, when the suppurative stage is fully established."

The author's remarks upon this question are exceedingly valuable and well worth the serious attention of all whose opportunities for observation and experiment enable them to throw lights upon points of such vast importance in military surgery.

In conclusion, we cannot but lament the want of time and space to do ample justice to the talent and persevering industry of our author, whose "Notes," we feel assured, will be read with avidity by all who have the interest and welfare of the profession at heart. To those destined for the military part of the profession, it must ever remain an invaluable memorial of what *can* be done, even on active service, and act as a stimulus to others to follow in a path so ably marked out for them.

DISEASES OF THE WINDPIPE.

1. Observations on the Surgical Pathology of the Larynx and Trachea, including Remarks on Croup, Cynanche Laryngea, Wounds, &c. &c. By *W. H. Porter*, Professor of Surgery in the Royal College of Surgeons in Ireland. 8vo., pp. 275. Second Edition. London, 1837.
2. A Treatise on the Diseases and Injuries of the Larynx and Trachea. By *Frederick Ryland*, Surgeon of the Town Infirmary, Birmingham. 8vo., pp. 328. London, 1837.
3. Traite Pratique de la Phthisie Laryngee, &c. Par MM. *Trousseau* et *Belloc.* 8vo., pp. 488. Paris, 1837. Balliere.

[Concluded from No. LV. page 64.]

In our last Number we entered on the consideration of the diseases of the Larynx and Trachea, and directed the attention of our readers to the general pathology of these parts, and more especially of their mucous membrane. We pointed out some of the peculiar features of inflammation, when it attacks the commencement of the air-passages, and endeavoured to rectify certain errors, which have of late years crept into medical doctrine, in consequence of the adoption of a new term, *Diptherite*, to designate one form of cynanche or angina. We shewed that instead of regarding *Diptherite* as a *new*, or hitherto undescribed, disease, it is merely one species of what was formerly described under the name of *Angina membranacea;* and moreover that there are several varieties of this very species, each requiring a peculiar mode of treatment. In the course of our remarks, we exposed the fallacy of some of the most recent French writers, such as Laennec and Bretonneau, in supposing that Diptherite and Croup are the same disease, differing only in the part affected.

We entered at considerable length into the therapeutic department of the subject, and described what we have found to be the most speedy and effectual means of subduing laryngeal and tracheal inflammation. We then commenced a short account of that distressing malady *phthisis laryngea*, and pointed out some of the most frequent causes which give rise to ulceration of the larynx and its accompanying symptoms. Neglected venereal and mercurial disease is perhaps one of the most common of these causes; and we know that when tubercular degeneration exists in the pulmonary tissue, the mucous structure of the air-passages is not unfrequently affected in a somewhat similar manner at the same time.

In many cases the disease appears to be purely idiopathic, commencing sometimes in the hard, at other times in the soft parts.

At present we propose to call the attention of our readers to *two forms* of laryngeal disease, which hitherto have not been well known to medical men. Decidedly the best description, which we have met with, of these, is that given by Mr. Porter; and we shall therefore avail ourselves duly of his observations to illustrate the subject. These two diseases are *calcareous degeneration* and *gangrene* or *mortification of the larynx.*

In the former disease, which is comparatively far more common than the other—these cartilages become converted into an earthy, gritty, calcareous matter, which is usually mixed up with portions or spiculæ of carious bone. In the latter, on the other hand, they exhibit the usual appearances of mortified or sloughly cartilage, being "black and dissolved, resembling wetted and rotten leather." Both these forms of morbid degeneration are usually accompanied with the formation of purulent matter around the cartilages. The abscess may burst either outwardly, or into the larynx, and is then rejected by coughing, or into the œsophagus. In the latter case, a communication may be formed between the two passages, and then, says Mr. Porter, the food, but particularly the drink, passing through the ulcer, afford some little insight into the nature of the case.

Let us now consider more minutely each of the two forms of disease.

Calcareous Degeneration of the Cartilages of the Larynx.—In this, the laryngeal cartilages become converted into a substance, partly of a calcareous and partly of an imperfectly osseous nature. It is so admirably described by Mr. Porter, that we shall use his own words.

> "About the age of 32, and varying from that to 36, we occasionally find that the cartilages of the larynx undergo a remarkable change, and are converted into bone. Previously to and during this process, the structure of these substances is highly organized, and a section of them appears red and very vascular. In most instances the change takes place, like every other operation of the animal economy, without inconvenience; whilst in some particular constitutions a morbid action is set up with terminates in this dangerous disease. It commences usually in the broad posterior portion of the cricoid cartilage, this part being now highly organized, and more capable of producing disease. At first a small earthy deposition is laid down in some part of the cartilage, probably near its centre;—it feels hard and gritty under the knife;—is white as to colour,—and perhaps may be somewhat of the same nature as the earthy degeneration in the coats of arteries. This increases in quantity, so that the entire of the cartilage seems to be converted into it; and as it is totally unorganized, it acts as an extraneous body. An abscess is formed which bursts in one or more places; purulent matter is discharged, frequently mixed with this earthy substance already mentioned, the patient becomes emaciated, and worn down with the cough, difficulty of breathing, and other symptoms that attend this melancholy disease: he either dies with most of the appearances of hectic fever, or, if he recovers, it must be after bronchotomy has been performed, and he breathes artificially for ever after." 131.

From this description, it appears that the morbid action commences in the cartilages themselves. The disease is therefore primarily one of the firm parts. The mucous membrane however of the larynx is necessarily affected from almost its very commencement. It becomes irregular, or corrugated, somewhat thickened, and inflamed. Specks of ulceration soon make their appearance; these spread and coalesce; and thus sores, of the size of a sixpence or shilling, are formed in different parts, while the rest of the mucous membrane becomes more and more congested and disorganized. When, says Mr. P. a larynx is examined, which has long been the seat of this affection, very little trace of its former configuration can be discovered.

Now the morbid changes of the larynx, which we have been describing, may exist for a length of time, without any serious mischief, before any alarm has been excited in the mind, either of the patient, or of his medical attendant.

Slight sore throat, hoarseness of the voice, and a certain degree of uneasiness in swallowing firm morsels of food, are usually the earliest appreciable symptom.

As the mucous membrane of the larynx becomes more decidedly affected, the patient begins to suffer from a most troublesome cough, and from occasional attacks of most distressing breathlessness. These attacks of dyspnœa are, at first, decidedly spasmodic; and sometimes they are so severe, even in the early stages of the disease, that the patient has expired in one of them, even before the existence of the primary malady has been suspected.

Along with the symptoms now mentioned, there is always more or less tenderness of the larynx on pressure.

When the cough has continued for some time, it gradually becomes more moist, the sputa being more abundant and coming away with less difficulty. Enveloped in the sputa, which are now decidedly purulent, are often observed particles—varying in size from a pin's head to a pea—of a gritty, earthy-looking substance. These are small detached portions of the degenerated cartilages.

The breathing gradually becomes more and more distressed, the cough is more incessant, the sputa are more offensive and fetid, and the dyspnœa returns with greater frequency, and severity. These symptoms are usually attended with pain and constriction at some part of the chest, and with all the usual signs of hectic fever; and death inevitably follows.

Having thus described the pathology and symptomatology of this laryngeal disease, we shall shortly allude to its *treatment*,—we do not say its *cure*—before dismissing the subject. No medicine has any effect, as far as we yet know, in arresting the morbid action, when it has once fairly commenced in the cartilages.

Perhaps the establishment of a seton in the side or nape of the neck, and residence in mild and pure country air, with a regulated diet, and extreme quietude of the vocal organs, are all that the prudent physician will think right to recommend. As to teasing his patient with a variety of local and instrumental remedies, he will carefully abstain from such a practice.

Mercury, which is so beneficial in most other laryngeal affections, is worse than useless in this. Certain anti-spasmodics and anodynes may be found necessary to alleviate the cough and paroxysmal dyspnœa; but these will be found of but little avail.

The constitution of the patient is almost always radically and deeply *cachectic*—alas! too often from the previous dissipated and debauched career of his life. Most of the cases of this formidable disease are found to occur in those who have ruined their health by excess either in drinking spirituous liquids, or in venereal pleasures *

However powerless the aid of medicine may be in arresting the morbid degeneration of the laryngeal cartilages, it is most pleasing to know that, even in the extremity of the evil, the operation of bronchotomy has afforded not only great and immediate relief from suffering, but even a prolongation for months and years although with the disagreeable inconvenience of wearing a tube in the windpipe for ever afterwards.

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* In the article, in our last Number, we alluded to the frequent occurrence of laryngeal disease in venereal patients. There is manifestly a sympathy, in disease as well as in health, between the organs of the voice and those of generation.

This therefore is a point of the greatest importance; and the more so, as the results of Mr. Porter's late experience have most satisfactorily proved to him that the advice which he had given in the first edition of his work—not to perform the operation—is perfectly erroneous. He says that, within the last few years, he has had the gratification of saving the lives of several persons affected with disease of the laryngeal cartilages, by performing bronchotomy; and adds—

> "There are at present in Dublin four persons on whom I operated so circumstanced, artificially respiring, without any prospect of being otherwise able to exist for the remainder of their lives. One of these works at the laborious occupation of a stone-cutter, and another is a kind of errand-boy, who subsists by going of messages, and must undergo a considerable deal of fatigue every day. I have, therefore, in now proposing the operation to my patient, very little apprehension of the result, unless there happens to be present some unhappy complication of disease, the most frequent of which is tubercular abscess of the lung." 134.

At first the wearing of the tube is very troublesome and even painful; but gradually the lips of the wound, and the mucous membrane of the trachea become less sensitive, and the patients can remove and replace the instrument without much inconvenience. Mr. Porter mentions that in one of his cases the tube, which had been worn for three years, became so corroded that it broke across in the middle, and a portion of it dropped into the windpipe, requiring a new operation for its extraction. It is necessary therefore for the surgeon to examine occasionally the instrument.

Had our limits permitted, we should have given one or two of the illustrative cases, which Mr. Porter has reported. We must therefore refer those readers, who wish to understand the subject more minutely, to consult the original—which we have already said, is a work of the most practical value.

The other form of disease of the laryngeal cartilages, which we mentioned, is gangrene or mortification. This, as might be supposed, is of very rare occurrence. Mr. Porter has witnessed only two instances of it. In one, the affection appeared in an exceedingly acute form, and ran its course with great rapidity; whereas, in the other, it was of a chronic nature, and had been preceded for a length of time by symptoms of laryngeal disease. Both cases occurred about the age of 30. We shall give a condensed report of their most striking phenomena.

Case 1. Richard O'Leary was admitted into the Meath Hospital on the 15th July, 1835. His breathing was difficult, laborious, and attended with a hissing noise; the voice was hoarse and ringing; no cough, but severe spasmodic exacerbations every night. On examining the fauces, a large broad and spreading ulcer was perceived on the back of the pharynx.

He had been eight weeks ill, before his admission; and he had taken a quantity of mercurial medicines. The mercurials were continued, and opiates and antispasmodics were administered. He gradually became worse; and on the 25th Mr. Porter was summoned to him in great haste. The dyspnœa was excessive; his voice was gone; and he was evidently in the greatest agony. Mr. P. ordered him a strong antispasmodic opiate; but, this failing to afford any relief, the operation of tracheotomy was performed. For some hours his life was despaired of; but towards evening, after expectorating a large quantity of mucus, he rallied; slept well during the night, and awoke next morning much better in every respect. The discharge through the wound was abominably fetid. For three or four days he seemed to improve; but then his swallowing became more difficult, and the neck was swollen and œdematous. When he attempted to swallow, part of the fluid escaped through the wound.

On the 7th August an incision was made into the side of the neck; the abscess was opened, but no discharge followed. It was found to communicate both with the larynx and pharynx, and was excessively putrid. A large quantity of slough was removed, amongst which was a portion of the right ala of the thyroid cartilage. On the 10th, he died in a paroxysm of convulsion. On dissection, a large abscess existed in front of the larynx and upper part of the trachea, in which the thyroid cartilage lay like a foreign substance, entirely denuded, mortified, and abominably offensive. The front of the cricoid cartilage, and of the two upper rings of the trachea, had been removed by mortification also. The lining membrane of the larynx was thickened, corrugated, and had a granular appearance: part of it was ulcerated, at which point the abscess had communicated with the pharynx.

Case 2. Cath. Young, 30 years of age, applied as an out-patient on the 21st July, 1824, complaining of sore throat, difficulty of deglutition, and pain over the thyroid cartilage. The front of the neck was hard and swollen but not discoloured. She was slightly feverish. She attributed her illness to the swallowing of a small bone; but this was never found. On the 26th, the tumor broke, and discharged an abominably fetid pus mixed with some mucus. On the 30th, her state was more unfavourable. The pain on swallowing, or cough, was more severe. Her speech was low, and attended with difficulty. There were two ulcers in the front, and these communicated with the trachea. Large loose portions of the thyroid cartilage were seen at the bottom of the sores, of a dark brown colour: the discharge was insufferably fetid. When she attempted to swallow, the fluids occasionally escaped from the wounds. She died on the 1st of August; but a dissection was not permitted. Mr. Porter, however, whilst examining the sores in the dead body, pulled out with a forceps nearly half the left ala of the thyroid cartilage, which was brown, fetid, and putrid; its edges were softened as if by maceration, its centre hard and more resembling horn than cartilage.

We have now completed our description of the morbid degenerations of the laryngeal cartilages. It has been seen that both forms are accompanied with the formation of an abscess around the diseased structures; but that we have regarded this latter process as secondary to, and induced by, the existence of the morbid change in the cartilages themselves. There cannot be a doubt that these structures, or at least their investing perichondrial membrane, are occasionally the primary seat of diseased action; just in the same manner as the bones or their periosteal coverings are known to be. The mischief, in either case, commences in the hard parts: and where this has existed for a certain time, the adjacent soft parts are excited to inflammation and consequent suppuration.

But it is to be remembered that an abscess, and that too of a most unhealthy character, does occasionally form around the laryngeal cartilages, without these being necessarily diseased, at least in the first instance.

In consequence of the strong fascia of the neck, all suppurative swellings here are necessarily confined and pressed inwards, so as to cause, very often, great embarrasment in breathing and even in deglutition. Fluctuation is always very indistinct; and the obscurity of this symptom is usually increased by the œdematous swelling which is present.

Whenever, therefore, there is reason to suspect an abscess in this part, a deep incision should be early made, so as to relieve the tension, and give exit to the matter. Often, indeed, no discharge follows at the time; but, independently of the immediate relief to the difficulty of breathing and deglutition, the matter usually makes its appearance in the course of a day or two. Mr. Porter narrates an interesting case in illustration of this remark; and proceeds to state;—"Since that period I have tried a similar practice in several cases, in some of which I have cut down upon the abscess at once, and in others have left it to open into the wound, and the principle has been acted upon with the most decisive success by Dr. Graves, in cases of abscess of the liver.—The last, and I think the most interesting, case of this nature, under my care, was one in which there was no external trace of the existence of abscess, except a slight fulness on the left side of the lower part of the neck, apparently immediately over the carotid artery. From some circumstances connected with the case it was deemed inadvisable to operate low down; and by an incision in the median line of the neck I merely laid bare the lower part of the larynx, and about the three superior rings of the trachea. Yet this answered every purpose. On the following day a profuse discharge of matter took place from the wound, which pressure on the lower part of the neck shewed to have come from the seat of the suspected abscess; and the introduction of a curved probe, which passed downwards and backwards to the extent of two inches and a half, made it plain that the matter had been situated deeply between the trachea and œsophagus."

The most usual situation of abscess is behind the broad portion of the cricoid cartilage. As a matter of course, any swelling here must soon affect the entrance of the glottis, and often too the passage of the æsophagus. The symptoms however are often most puzzling and unsatisfactory; and the management of such a case will require great nicety, as well as decision, of judgment on the part of the medical attendant. It is not possible to lay down any instructions, which can guide him in all cases. This however we may state that, whenever we suspect that an abscess is compressing the larynx, an outward incision should be made upon it; but that, if the dyspnœa becomes still more alarming, and seems to threaten the life of the patient, recourse must be had to bronchotomy—the subsequent treatment depending on the state of the case.

Having thus discussed some of the most interesting, and least known, idiopathic or spontaneous disease of the larynx, we now propose to direct our readers' attention to various injuries of this organ; and the first we shall select are the

Accidents from swallowing strong Acids, boiling Water, &c.

The caustic poisons are sometimes made use of by the suicide to destroy life, and it is really sometimes astonishing what quantities have been swallowed, not only at once, but also in successive draughts with considerable intervals of time between.

Mr. Porter mentions the case of a young girl who, after taking a quantity of strong sulphuric acid, sat quietly down to tea with some friends, although the dose was so strong as to induce death in a few hours: and also that of a man, who took a second dose of the same acid, because he thought the first might not be sufficient.

In such cases as these, the injury is usually confined to the mouth, œsophagus, and stomach. The larynx escapes, at least generally so; and hence the respiration is very seldom affected. Should, however, symptoms of alarming laryngitis supervene, the surgeon may find it necessary to have recourse to bronchotomy.

The case, however, is very different when the caustic fluid is inadvertently —and not designedly, as with the suicide—swallowed; for no sooner is the person aware of the mistake, whether by the taste or in any other way, than all the muscles of the fauces and throat becomes spasmodically affected, and the fluid is ejected, partly by the mouth, and partly perhaps by the nares, while perhaps a few drops find their way through the glottis. As a matter of course, all the parts, with which the acid has come in contact, are injured more or less seriously, and are speedily attacked with violent inflammation. The operation of bronchotomy is, as we might expect, more frequently required in this description of case than in the former. All will depend on the violence of the laryngitic symptoms.

The history of the following case will be read with interest. A young girl, being taxed by her mistress with dishonesty, attempted to destroy herself by drinking dilute sulphuric acid. She refused to tell what she had taken; and it was only by observing the effects of some of the fluid, which had been accidentally spilled upon her dress, that its nature was discovered. Very fortunately she had taken a hearty breakfast before committing the act. The rest of the description we give in Mr. Porter's own words:—

> "The tongue was white, and its integument peeled off on the second day after the accident, like a piece of thick paper, soaked in wet, and curiously marked by pin-holes of different sizes. The sufferings of this creature were extreme, very protracted in duration, and of a character that I have not seen described. After the violence of the gastric symptoms had somewhat subsided, she was seized with symptoms resembling stricture of the œsophagus; the swallowing of any solid material was perfectly impossible, and the attempt attended with great pain; fluids, if taken cautiously, seemed to stop for some minutes in the œsophagus, and then passed the obstruction slowly; but, if there was any unguarded haste, they were forcibly thrown back through the mouth and nose. At the same time a most profuse discharge of saliva took place; the hospital tray, which held more than two quarts, was filled three or four times a day with this fluid. When these had been removed, symptoms of an hysteric character made their appearance, with which the patient was during a long

time teased, and more than seven months elapsed before she could leave the hospital. A very few days after the accident, she exhibited some slight symptoms of laryngeal distress, which were soon removed by the application of a few leeches externally to the throat." 182.

In another case alluded to by the author, which proved fatal in the course of a few hours, the root of the tongue and back of the pharynx were found black and charred; the œsophagus, in spots and patches, was blackened, but apparently not disorganized; the lining membrane of the stomach was completely changed, being quite black, and hanging loose flocculent, and ragged into the cavity of the organ. The superior portion only of the larynx was inflamed, and slightly œdematous.

The other set of accidents—those, namely, which arise from the swallowing, or rather the attempt to swallow, boiling water—more frequently comes under the notice of the surgeon than that we have been describing. Children are generally the sufferers from this most distressing accident. Little aware of what they are doing, they put their lips to the spout of a boiling kettle or urn, and draw in a mouthful or so. The fluid is probably never fairly swallowed, for the throat must be immediately thrown into the most violent contractions, from the intense pain, to expel the scalding contents. It is possible indeed, that in a few cases a mouthful or so is drawn down into the stomach, during the first alarm and suffering of the child. That this, however, is a rare accident may be inferred from the circumstance of the general absence of any gastric distress afterwards. Sometimes the boiling water is not admitted into the fauces, the child being scalded by the steam alone.

Whatever may be the extent of the injury, the symptoms are usually much alike. As a matter of course, the child is found screaming and writhing with pain; he perhaps cannot utter a word, in consequence of the vesicated state of the tongue; all attemps to swallow are difficult, or quite impossible; and the breathing is always more or less disturbed. In the course of an hour or two, the dyspnœa increases, and becomes more or less croupy; the face is flushed, and the usual symptoms of synochal fever supervene. These, however, are soon exchanged for all the indications of rapid exhaustion: the respiration is more difficult, and is accompanied with a stridulous, piping sound; the face becomes livid, the extremities cold, the pulse weak and faltering, and convulsions perhaps come on. The child dies, either asphyxiated and with struggles, or comatose from exhaustion. The asphyxia is attributable to the closure of the glottis, in consequence of laryngitic inflammation; and the coma from exhaustion, to the very remarkable tendency to atony of the vital powers in all serious cases of burns. When the case is more favourable, the progress to recovery is always very slow and tedious, and is usually much retarded by the proneness which exists to tracheal and bronchitic inflammation, occurring in a state of the system liable to extreme depression.

The pathological appearances are inflammation and vesication of the tongue, cheeks, and fauces; the epiglottis and edges of the laryngeal opening are inflamed and œdematous; and, when life has been prolonged for two or three days, the trachea and bronchial tubes are frequently congested and tumefied, and found to be filled with a large quantity of thin mucus. In a few cases, we meet with a genuine exsudation of coagulable lymph on the surface of the trachea and larynx, analogous to what we find after fatal croup. In other cases, the pulmonary tissue is inflamed and partially hepatised. In reference to the lesions of the œsophagus and stomach, Mr. Porter observes:—

> "I have not myself yet seen an instance of the lower part of the œsophagus or of the stomach having sustained injury; a fact which proves how very infrequently the hot water is actually swallowed, and which may possibly be explained by its having been taken accidentally, and without the knowledge or intention of the patient. Neither have I observed stricture of the œsophagus, ptyalism, or any of the other symptoms that are met with in patients who recover after having really swallowed some of the caustic acids." 183.

The *prognosis* in all cases of accidents from swallowing boiling water, or any highly irritating or caustic fluids, is decidedly very unfavourable. It is well known how dangerous a disease laryngitis is in all its forms When it is induced in the way now alluded to, it is very generally fatal, in consequence of the extreme rapidity of its symptoms, and the accompanying morbid state of the mouth and fauces.

With respect to the *treatment*, it should be vigorously antiphlogistic; as the only chance of safety consists in arresting, or in subduing the laryngitic inflammation. Leeches should be applied freely to the neck and throat, or, if the patient be old enough, general venæsection may be practised.

Mr. Ryland recommends the use of a blister—raised by means of a strong solution of the blistering fly in acetic acid—to the upper part of the sternum at the same time.

Dr. Wallace, of Dublin, has powerfully insisted upon the benefits of administering calomel in large repeated doses—two or three grains every hour or two, until the system is affected, or a decided impression is made on the disease. In some cases deglutition is quite impossible; and no tube can be passed into the œsophagus, either from the mouth, or from the nostrils. In reference to the operation of tracheotomy, it is instructive to learn the sentiments of so experienced a surgeon, as Mr. Porter. He remarks:

> "The fact is, that the operation is always delayed too long; at least, it is longer postponed in this than in other cases of acute laryngeal disease, and until the patient's condition is unfavourable for any operation, but more particularly for such as this one, performed on a person of an age so tender."
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> "Another source of failure is in the quantity of blood lost by the little patient during the operation. This is certainly true of all cases of bronchotomy performed on the child, where the loss is proportionally much greater than in the adult, and sometimes is so profuse as to embarrass the operator, and even bring the patient's life into imminent peril. Now, it is an observation established by the unerring test of experience, that persons who have suffered from obstructed respiration bear the loss of blood badly, and that, in proportion to the severity of the dyspnœa and the length of time it has endured. In the cases of swallowed boiling water, I have already stated that the difficult breathing is allowed to proceed to the utmost limit possible, and I believe that the loss of blood which, except in some cases of extraordinary good fortune, inevitably occurs in the operation on the child, is by no means an infrequent cause of its want of success." 186.

Mr. Ryland has with praiseworthy diligence collected the details of numerous cases of the accident, which we have been describing. Treating of the operation of tracheotomy he mentions that:—

> "Dr. Burgess performed the operation, in one instance, two hours after the

occurrence of the accident, and the patient completely recovered. 'The usual treatment for inflammation was pursued' after the operation. Dr. Wallace practised it successfully twelve hours after the accident; the child had previously taken eighteen grains of calomel, and this medicine was continued, in smaller doses, for four days afterwards, indeed, till obstruction to respiration by the natural passages was removed. Dr. Smyth performed tracheotomy with success twenty-four hours after the accident; in this case also the calomel treatment had been commenced several hours before the operation was undertaken, and was continued afterwards till salivation occurred. Mr. Adams performed the operation successfully nine hours after the accident; bronchitis ensued in the course of a few hours, but the patient recovered by the 14th day." 270.

With this we close our remarks on the injuries of the larynx, which are usually induced by swallowing boiling water or any strong caustic fluid. The next subject for enquiry, in Mr. Porter's work, is the presence of

Foreign Bodies in the Larynx and Trachea.

Of late years the attention of surgeons has been more frequently drawn to this accident than formerly, in consequence of the *apparently* greater number of cases occurring now than used to be the case. We say *apparently*, only to intimate that the symptoms of the accident are better known in the present day than in the time of Louis, Pelleton, &c. There can be no doubt that many a child has died from the entrance of some foreign body into the air-tube, while the true cause of the mischief was not ascertained, and the death was attributed to croup or bronchitis. The most prominent symptoms are cough and dyspnœa; and these, in many cases, are not constant, but recurring only at intervals. The young patient is often utterly unaware of what has happened; and hence the surgeon can derive but little information from the tale that is told him. Mr. Porter alludes to the great assistance which auscultation has afforded in the diagnosis of the present accident. It has converted, says he, doubt and indecision into certainty; it has rendered the fact of the presence of a foreign body within the trachea cognizable to the sense; and in imparting to the practitioner that confidence which a correct knowledge of his subject alone can bestow, I am satisfied, it has already contributed to the preservation of numerous lives.

If the foreign substance is loose and moveable up and down in the air-tube, it may frequently be heard distinctly to strike against its parietes with a peculiar râle, or rattling noise: this sound is usually most obvious when the patient makes a forced expiration, and the foreign body is driven up towards the larynx.

On the other hand, if the substance is impacted or fixed at any one point, these auscultatory phenomena are not present; but then those which arise from the partial, or complete at one part, obstruction of the entrance of the air will necessarily be heard. Hence it is, that whenever a foreign body is fixedly lodged either in the windpipe or in one of the bronchi, there is either a feebleness, or a total absence of the respiratory murmur in the *right*[*]

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[*] It was first observed by Mr. Key—and the correctness of the observation has been confirmed by the experiments and researches of others—that a foreign body, when it descends below the trachea, almost invariably occupies the *right*, and not the left bronchus. It would seem from the trials of Mr. Goodman, an able Dublin anatomist, that such is the case even in the dead subject, when any extraneous substance is dropped in the windpipe.

lung, although that side of the chest shall sound as clearly on percussion as ever.

"This conclusion," continues Mr. Porter, "of the lung seldom lasts any continued length of time, and, when the foreign body changes its position, the air gains free admission, and respiration becomes equal in both lungs. When it is continued, that is, when the foreign body is impacted in the bronchus by its size, its weight, or by being entangled in mucus, the patient very often suffers the most intense distress and seems to approach the verge of suffocation; but of this he gradually becomes relieved, as if the system could accommodate itself to the diminished quantity of air. The absence of respiration in the right lung, and its sudden re-establishment, appears to be pathognomonic of the presence of a foreign body; at least I know of no other accident or disease that could occasion such phenomena." 202.

With respect to the rational symptoms indicative of the presence of foreign bodies in the air-passages, they, as may be inferred from the preceding remarks, are any thing but satisfactory. There may be uneasiness or pain at some part of the throat; but this is by no means uniform. In a case, where so jagged a substance as a portion of a large molar tooth was admitted into the windpipe, the patient did not complain of more than a feeling of undefinable uneasiness in the chest, a sensation of weight in breathing, and a tendency to draw heavy sighs, which kept his mind in a continued state of inquietude; yet a more irregularly-shaped substance can scarcely be conceived.

The amount of local distress will depend, in a great measure, on the situation of the offending body. If it be lodged in the larynx, the symptoms will be severe and almost incessant, and may very speedily cause death; but if it is so placed that it cannot materially interfere with the passage of the air, the acute distress soon subsides—only however, in many cases, to be followed by ulceration, and consequent hectic fever; and thus the patient perishes at length with every indication of Phthisis laryngea. Occasionally the body, which had remained impacted for a length of time, becomes accidentally dislodged; and then all the early symptoms of threatened strangulation supervene. Sooner or later almost every case of the accident, of which we are now treating, proves fatal.

But to return to the *semeiology* of such cases, we may remark that there is almost always great restlessness, and anxiety; and, occasionally too, an appearance of emphysema above the clavicles—attributable probably to a rupture of some of the pulmonary vesicles in the upper lobe of the lung. To shew however that we cannot depend upon the merely *rational*—as they have been absurdly called—signs to indicate the existence of any foreign body in the air-pipe, the following case needs only to be mentioned. Mr. Porter was requested to examine the body of a child, who, *it was supposed*, had died from being thrown down by a gig, and from one of the wheels having passed over the chest. She had so far recovered from the immediate effect of the accident that she walked home without assistance, although from the moment that the accident occurred, her breathing had been croupy. She was every now and then seized with fits of most distressing cough and general restlessness. These symptoms continued for 38 hours, when, having arisen for a moment, she expired in a paroxysm of convulsive cough.

On dissection the thorax and its contents were found quite exempt from the slightest injury; but on opening the larynx there was discovered part of an almond-shell, its rough and broken edge entangled in the rima glottidis, and placed in such a manner that it effectually closed up the aperture for the transmission of air. The nature of the case was now made evident. The child had the fragment of shell in her mouth at the time she was struck, and either from the fright or the shock had unconsciously made an effort to swallow, and it passed into the trachea.

Nothing can be more satisfactory than the history of this case: the presence of any foreign body in the windpipe had not been even suspected. Such, in short, is the nature of not a few *supposed* instances of sudden and rapidly fatal croup or suffocative catarrh.

Here we may remark that the accident, now under consideration, almost invariably happens when the patient is suddenly surprised at the time that any small body is in the mouth. The cause of this is obvious. There is an involuntary effort of inspiration made at the moment; and thus whatever is in the current of the inhaled air is drawn into the windpipe at the same time. It is quite a mistake to suppose that the entrance of a foreign body into the larynx takes place during the act of swallowing. Nature has provided too well against the occurrence of this accident; and it is very remarkable that, even when the epiglottis has been partially or almost totally destroyed by disease, it seldom or never takes place. But it is different when a man attempts to draw a full inspiration, whilst any foreign body is within reach of the current of air about to pass into the lungs. At this time the epiglottis raised, the rima glottidis is distended, and every thing appears to favour the entrance of the air, and of course of whatever it bears along with it. Thus, a person holding a sup of wine in his mouth, to enjoy the flavous, incautiously attempts to breathe: a drop of the fluid enters the larynx—it produces great irritation, and the spasmodic cough that ensues throws it out with great violence, perhaps even through the nostrils. The same accident happens from sucking up an egg, on the top of which some loose salt has been placed: the salt, during the act of inspiration, flies into the larynx, and I have known many persons almost reduced to the verge of death by an occurrence apparently so simple. Thus, in like manner, a bead, a shell, or any thing held incautiously in the mouth, will naturally follow the course of the air; and, in the event of a full inspiration incautiously made, will certainly pass down into the trachea.

So much for the manner in which the accident usually takes place. We have already said how much the violence, and even the character, of the symptoms is influenced by the situation in the air-pipe, which the foreign body may occupy—according as it may be fixed, or loose and moveable; and, if the former be the case, according as it may be impacted in the ventricles of the larynx, or in one of the bronchi.

When the upper portion of the larynx is the seat of the injury, the irritation and other symptoms are always excessive, and the patient may perish in the course of a few days, or even more quickly, either from inflammation, or from spasmodic closure of the glottis. If however the body be fairly lodged in one of the laryngeal ventricles, it has been known to remain there for many years without much inconvenience. The same may be said, when it is fixed low down in the trachea, or in one of the bronchi—the *right* one, as already explained, being almost always the seat. Let it not however be supposed that, under such circumstances, the life of the patient is not endangered. Mr. Porter very justly remarks:

> If the case, however, is allowed to progress without surgical interference, death is certain to ensue, although at different periods after the accident, and under different pathological circumstances, sometimes from imperfect respiration the lung becomes congested and loaded, and the patient dies convulsed on account of the brain being supplied with an improper quality of blood; sometimes life is terminated by bronchitis, pneumonia, or pleuritis; and sometimes, at a still more remore period, death is preceded by symptoms of consumption. In proof of the degree of uncertainty that attends these cases, I need only notice that the subject of Mr. Houston's case died on the 11th day, after having suffered from every form of inflammation to which the parts within the chest are liable; whilst Mr. Liston's patient was operated on six months after a fragment of bone (a substance very analogous to a broken tooth) had passed into the trachea, and recovered in the most satisfactory manner." 204.

Such therefore being the danger of all cases, without exception, in which foreign substances are admitted into the air-tube, there cannot be a doubt as to the propriety of laying it down as a general rule of practice that we should have recourse to the operation of bronchotomy, whenever it is fairly ascertained that the efforts of nature are unequal to the removal of them. As to the use of emetics, with the view of exciting violent expiratory struggles, Fabricius Hildanus objects with great justness to them, on the ground that the accident itself will excite sufficient cough, without the assistance of any therapeutic means. With respect to the proposal of M. Dessault, to introduce an elastic tube from the nares into the windpipe, surgeons are not likely to differ in totally condemning it, as not only useless, but worse than useless. We shall close our remarks on the subject of foreign bodies in the air-tubes, by a brief report of an interesting case related in Mr. Porter's work:

A boy, five years of age, was taken to Mr. Smyly, in consequence of a violent convulsive cough, which had come on quite suddenly, and continued without ceasing. All the information which could be obtained from the little sufferer was, that he had swallowed something, and that it had stuck in his throat. The face was swollen, the eyes were red, and the respiration hurried; but the child spoke without difficulty or pain, and the cough had begun to subside in frequency and force. The auscultatory phenomenon was an intense *puerile respiratory noise* over all the left lung, while over the right scarce any murmur was audible. Both sides of the chest were equally resonant on percussion. The nature of the case being evident—viz., that some foreign body was lodged in the right bronchus—the operation of tracheotomy was performed forthwith. On the trachea being opened, violent fits of coughing took place, and succeeded each other with great rapidity. Several attempts were made with a long forceps to dislodge the foreign body, but without success; the instrument was too thick, and its presence in the trachea caused the most intense distress: a probe was tried, but was not sufficiently long to reach it. These efforts occasioned cough, with great irritation, which obliged us to desist. The patient was then placed in bed, a silver canula having been introduced to keep the wound open. During the night, the breathing became very difficult; and next morning he was apparently moribund, in a comatose state. A long gun-shot probe was passed down along the trachea, and fortunately reached and dislodged the offending substance. A violent fit of coughing succeeded, and a kidney-bean was expelled, followed by a large quantity of ropy mucus. Immediately afterwards, the respiratory murmur was loudly audible over the right side of the chest. From this date, in spite of some symptoms of threatened bronchitis, the case advanced to a most favourable termination.

The next subject we select for a few remarks is that of

Wounds of the Larynx and Trachea.

No cases in surgery are more distressing when, as is usually the case, the accident has arisen from the act of the suicide. It is a melancholy fact, too, that such cases very frequently prove fatal, even when the injury inflicted is not very serious or extensive. There cannot be a doubt that the state of mental disquietude and gloomy apprehension of the poor sufferer interrupt, so to speak, the usual reparative efforts of nature, and thus have the effect of converting wounds, of by no means very alarming character into unhealthy sores, which, by keeping up a constant irritation of the system, ultimately destroy life.

The influence of the mind on the process of healing is well known to the military surgeon: wounds are much more difficult of cure in the *defeated* than in the *victorious* army. Independently of the unfavourable influence of the mind on the progress of suicidal injuries, their danger is, in many cases, much increased by the length of time which may intervene between the infliction of the injury and the requisition of surgical assistance; but this consideration is of much less importance than the former one.

It is but too true that few suicidal patients ever recover *by compulsion;* and hence it is that the most favourable symptom, in all such cases, is the expression of sorrow on the part of the sufferer for the act of which he has been guilty.

In almost all the attempts of the suicide to destroy life by cutting the throat, the knife passes between the os Hyoides and the upper edge of the Thyroid cartilage; and, from the head being thrown back at the time and the throat stretched to its utmost, it enters, not the larynx, but only the cavity of the mouth. In some cases the epiglottis escapes all injury: in others, however, it is more or less severed. This circumstance is of considerable importance in determining our prognosis of the events.

By attending to the direction of the knife, as now mentioned, we can at once understand how it is that the large blood-vessels of the neck *generally* escape: the anatomist knows that on the parallel of the thyro-hyoid space they lie deep in, as it were, a hollow. In short, it is certainly not so much from the importance of the parts divided, as from collateral and co-existing circumstances, that suicidal wounds of the throat prove so generally fatal in the long run. How often is it that the unhappy sufferer remains permanently gloomy and sullen, expressing neither regret for his crime, nor any satisfaction at the failure of his dreadful attempt! Perhaps too he will refuse to take any sustenance, and will resist the surgeon's wish to introduce food into the stomach by means of an œsophageal tube. Mr. Porter alludes to a case of this description, where the patient would receive no nourishment, except what could be derived from enemata of broth and milk. He survived for several months, and during this time the wound, although frequently closed by suture and agglutinative plaster, could not be made to unite. This man, as is usual, suffered from attacks of bronchitis; and an enormous quantity of mucus was secreted, all of which was expelled through the wound, no matter what pains were taken to prevent it. At length he perished, a perfect example of death from inanition, and one of the most melancholy spectacles that humanity could exhibit.

The difficulty of maintaining the head and neck motionless, and the con-constant passing of the food, saliva, and mucus through the lips of the wound, are doubtless the chief causes which prevent the agglutination of the divided surfaces. Then too, if any cough be present—and how frequently is this the case—every succussion of the chest and throat must necessarily disturb the wound.

It thus appears that, even under the most favorable circumstances, the management of wounds of the neck, penetrating either into the cavity of the mouth or into the air-passages, is attended with much difficulty, and requires the greatest skill on the part of the surgeon. Hitherto it has been too much the custom to follow one uniform line of treatment in all cases—viz., to stitch the gaping wound immediately, and plaster it up with adhesive strips. We are satisfied in our minds that this indiscriminate practice has often been very pernicious. The irritation of the sutures, increased by every movement of the neck, and the plugging up of the wound with saliva and mucus, have, in too many instances, aggravated the very evil which the surgeon was so anxious to rectify. Hence he is obliged, in the course of a few days, to remove the stitches; and, instead of finding the wound at all disposed to cicatrise, he discovers it looking any thing but healthy, and gaping wider than ever.

It is a much more judicious plan to leave the wound easy and undisturbed for two or three days, the surgeon being satisfied with using all means to keep the head and neck in an appropriate position, so as to approximate the lips of the wound, and administering all food by means either of an æsophageal tube, or of enemata *per rectum*. If indeed the wound be very extensive, a stitch or two at each may be employed; but as to sewing it up with several sutures the practice is, in our opinion, positively injurious—at least in very numerous instances.

When the irritation of the system, and perhaps too the disquietude of the mind are subdued—provided the wound of the neck look favorable and disposed to assume a healthy healing action—the surgeon may, with much better prospect of success, endeavour to draw together and to retain the divided edges.

English surgeons have, we think, too indiscriminately, not only in the present, but in other classes of wounds, aimed at the healing *by the first intention*. In many cases of amputation it will be found a wise and a good practice to use the gentlest means only to retain the divided edges in contact, for the first few days after operating. The proper position of the limb, and the use of a few turns of a well-applied bandage, are all that is sufficient for the purpose. How often have we seen in British hospitals the wound of the stump, on its first dressing, looking puffed, swollen, and angry, adhering imperfectly only at one or two points, and oozing out an unhealthy sanious discharge.

All this was the effect of the *forcible* drawing together of the divided surfaces by means of sutures, adhesive plaster, and rather tight bandages. True it is that these evils might have arisen, in part at least, from the flaps of the wound having not been made sufficiently long to meet without these approximating means; but, even allowing that such was really the case in some instances, we are satisfied that the practice alluded to is often most unwise and hurtful, as an invariable and indiscriminate mode of treatment.

The same remarks apply to many wounds of the scalp, and indeed of other parts of the body. We have often seen a wound, after the removal of a diseased mamma and of other tumors, heal most kindly, when neither sutures nor adhesive plaster had been applied, and a mere pledget of lint dipped in water had been laid over it, and the divided edges supported, and in some degree approximated, by a well-applied bandage.

No one can dispute the pre-eminent advantage of *primary* over *secondary* union in cases of wounds of the throat. The extreme difficulty, amounting in but too many instances to an absolute impossibility, of effecting an adhesion *by the first intention* is however a great obstacle to the best-directed efforts of the surgeon; and therefore, instead of *invariably* resorting to the closure of the wound *at once*, we feel confident that the plan, which we have recommended above, would be found in general practice to be more successful.

It may be almost unnecessary again to urge the extreme importance of the most perfect quietude not only of the injured parts themselves, but also of the whole system. For the latter purpose, it will be often advisable to draw blood from the arm, if there has not been considerable hæmorrhage from the wound. The phrenzied excitement of the suicide will be best allayed by this practice.

To ensure as complete a repose of the injured parts, it is quite necessary to prevent all attempts to swallow food; and hence the necessary nourishment should be administered either by the *œsophagus* or by the *rectum*.*

In passing a tube into the stomach—and this should be always done, if possible, from the nares, and not from the mouth—caution is necessary that it does not enter the larynx instead of the œsophagus.

> "Any elastic substance," says Mr. Porter, "introduced by the nostril will strike the spine nearly behind the uvula, and its point will thus be directed forwards and downwards, instead of backwards and downwards, so that its natural tendency will be to pass into the larynx, and not into the œsophagus. Nor will a lighted candle held before the the orifice of the tube, which is the best criterion we have to judge by, prove a certain test, unless it be persevered in for a given time, so as to shew the regular alternations of inspiration and expiration. It is very easy to conceive, that air may pass through a tube from the stomach, particularly at its first introduction; and on the other hand the instrument might be in the trachea, and yet no air pass through it, in consequence of its being

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* Mr. Porter seems to give a decided preference to the latter mode of supporting the patient's strength. Alluding to a suggestion of his own to perform bronchotomy in certain cases, he says:—"For the rest, I would not permit an attempt to swallow even a drop of liquid, because I know the patient can be sufficiently nourished without it: I would not try to introduce a tube into the œsophagus, because the effort produces great irritation and violent paroxysms of cough." We are much inclined to take the same view of the question.

choaked with mucus, or lying entangled in a fold of the lining membrane. The cough excited on its introduction will be no criterion; for it is impossible to pass the instrument without more or less irritating the larynx, and thereby exciting its sensibility." 253.

In all cases where it is probable that the œsophageal tube is necessary, the sooner it is introduced, and the less frequently that it is disturbed, the better; as every successive introduction adds for the time to the distress of the patient, and must disturb the healing process in the wound itself.

Hitherto our remarks have been confined to the appropriate treatment of wounds of the throat, in their *earlier* stages only; we shall therefore now allude to some of the difficulties attending the management of these accidents at a *later* period of their progress. Not to mention the gradual exhaustion and decay of the strength from a constant irritation, as well as from an imperfect supply of nourishment and other causes, there is apt to supervene, in not a few instances, a subacute inflammatory action and disorganization of the parts around the entrance of the larynx, inducing a gradual contraction of its orifice, and giving rise to a series of symptoms at once most painful and alarming. The constant cough, and the repeated paroxysms of severe dyspnœa, must wear out the strength of the strongest constitution. The patient may perish either from rapid suffocation, or from an irritating hectic sort of fever, or, lastly, from a chronic laryngitis and bronchitis.

Any one of these circumstances will necessarily add greatly to the unfavourable character of the prognosis; and it will be the duty of the medical attendant to devise, if possible, some means to obviate the danger—a danger arising, in most cases at least, from the imperfect supply of atmospheric air to the lungs.

There are two ways in which this may be done—either by passing an elastic tube into the larynx, or by performing the operation of tracheotomy. The former plan was adopted and recommended by the celebrated French surgeon Dessault; but is very ably, and, in our opinion, most satisfactorily reprobated by Mr. Porter. The necessary irritation consequent on the introduction of any instrument into the windpipe—an organ at all times so sensitive to the presence of any foreign body, and the more so now in consequence of inflammation, not to mention its contraction from previous disease—is a most serious objection to its adoption. We have only to recollect, says our author, that the passing of a tube into the larynx is an operation in itself by no means free from danger, that it is extremely difficult to be performed, that awkward and repeated attempts produce inconceivable distress, and that, even when performed with the greatest dexterity, it must invariably excite cough and restlessness—symptoms always disagreeable and often disastrous, particularly where it is desirable to maintain the edges of the wound in contact, or where arteries have been secured by ligature—to hesitate before we have recourse to the practice now alluded to. The operation of tracheotomy is exempt from all these objections, and although under certain circumstances it may be difficult and even attended with some degree of danger, it is altogether preferable to that of introducing and retaining any sort of instrument in so irritable an organ as the larynx.

It is unnecessary to pursue this subject. We shall therefore proceed in our analytic labours, and, as there are some very valuable remarks in Mr. Porter's chapters on

Bronchotomy as applicable to the Treatment of Asphyxia,

We shall select these, with which to close this review.

Our author most truly observes that, in the whole range of medical experience, there is not an accident which demands more practical skill, more patience and assiduity, and assuredly none the successful treatment of which will more amply reward the surgeon, than that of suspended animation.

He has no time to consults books; often too he has not the benefit of consultation with another; all must depend upon himself.

A minute or two may decide his patient's fate, and the happiness or grief of a numerous family. We need not say more to urge upon all to have their minds completely prepared on this momentous subject of professional practice. Mr. Porter's advice is excellent:—

"For a contingency of this description, a man must be always prepared; he must have his resources ready to be brought into operation on the most sudden emergency; for these accidents are almost constantly attended with hurry and confusion, in which, if the surgeon participates in the smallest degree, his patient will probably be lost. Calmness and self-possession are absolutely requisite; and the only means by which they can be acquired, is by studying and becoming familiar with the different forms of asphyxia, the causes that produce them, and the possible complications, both favourable and otherwise, that may be present in each: thence may the proper line of treatment be deduced, and principles established that can be applied without hesitation or delay." 221.

Asphyxia may be induced in various ways. A morsel of food, in the hurry of deglutition, may stick in the *rima glottidis*, and cause very speedy suffocation, partly by mechanical obstruction, and partly by exciting spasmodic closure of the orifice.

A woman passing along the street, and eating a piece of cake, suddenly fell, gave two or three convulsive struggles, and to all appearance died. She was taken up, and surgical aid almost instantly obtained; the fauces were examined without any appearance of an extraneous body; an elastic switch was passed down into the œsophagus, and as far as the stomach, without meeting with any impediment. Bronchotomy was proposed, but, in consequence of some objection being raised, it was not performed, and the patient was lost. On dissection it was found that this woman had a deficiency in the palate, which was stuffed with rags of lint: these had gotten loose, and became entangled in the morsel she was about to swallow, which was stopped immediately over the epiglottis, and thus kept it closely shut down." 224.

Had bronchotomy been performed at once, this patient would, in all probability, have been saved. Such cases may be readily mistaken for examples of apoplexy, diseases of the heart, &c. The following short history will illustrate this remark.

A sailor had been eating in company with another man in an upper room in a public-house: both walked to the stairs, down which he (the sailor) *fell* or *was thrown*, and was taken up at the bottom of the flight quite dead. He was a short stout man, with a remarkably short neck; the face was swollen and very red; the eye-balls staring: and every external appearance denoted that he had died from apoplexy, particularly as no mark of injury could be detected. Mr. Porter was desired by the proper authorities to examine the body, as some suspicion of foul treatment had fallen on the other man.

On examining the mouth, he found some potatoes and meat still lying on the tongue and adhering to the teeth; and, on dissecting the parts, he discovered a large piece of half-chewed mutton lying exactly on the epiglottis and effectually shutting it down.

What is the treatment which the surgeon should adopt in such a case? Clearly the object is to restore the passage of the atmospheric air to the lungs. This may be done *either* by removing the obstructing body with the finger or forceps, and then introducing a tube from the mouth or nares to inflate the lungs, *or* by at once performing the operation of bronchotomy and inflating the lungs from the artificial opening.

Mr. Porter gives the preference to the latter method, on the ground chiefly, that less time is lost, and that the most potent resuscitative means—the insufflation of the air—can be more immediately adopted.

The surgeon, however, will act rightly first of all to insert his finger into the mouth as far back as he can, and remove any obstructing body that may be present there: for it is quite possible that the mere irritation of the throat, thus stimulated, may induce the *excito-motory* action of the larynx, and re-established the movements of respiration. Be this as it may, no one will dispute the excellence of Mr. Porter's urgent advice to lose not a moment of time in any unnecessary operations. We think that he is quite right in preferring an artificial opening of the windpipe to the introduction of a tube from the mouth or nares into the larynx. Independently of the more speedy execution of the former operation, he remarks :—

> "There is another circumstance connected with this subject which should decide the surgeon in favour of bronchotomy. It is well known that the powers of life in any patient that has been apparently suffocated are extremely reduced, and that after his restoration it frequently requires the utmost care to prevent his relapsing into his former state again. Thus, it may happen that the process of inflation of the lungs shall have to be resumed five or six times, or even oftener, and this during a very short space of time. If such necessity should be found to exist, there are, probably, few practitioners who would prefer the introduction of a tube through the nostril every time respiration became imperfect; and as for leaving the tube, once introduced, within the trachea, producing irritation and exciting cough, it would scarcely be feasible, and certainly injudicious. On the other hand, the operation of bronchotomy presents the easiest means of inflating the lungs at any moment, and although the necessity of resorting to this procedure may possibly not arise, yet the operator should always bear in mind that in all probability it will, and prepare in the commencement for those contingencies which may subsequently create no inconsiderable embarrassment, or perhaps render all his exertions unavailing." 228.

The remarks which we have made on the asphyxia, which is caused by the *rima glottidis* being plugged up with a morsel of food, are to a certain extent applicable to the other forms of suspended animation. The leading object in all cases is to introduce air into the pulmonary tissue, with the view of re-establishing respiration. All other therapeutic means are secondary, and subsidiary to this; and the only question that is to be considered is, how and in which manner the lungs are to be inflated.

The ordinary method of the surgeon applying his mouth and breathing into the mouth or one of the mostrils of the patients, while the larynx is gently pulled down and pressed back, will succeed in some cases; but it often will fail entirely. The air may, in truth, not be admitted at all into the windpipe; and, instead of the lungs, the gullet and stomach may be distended. It is a mistake to suppose that in all cases of asphyxia—or even when actual death has taken place—that the *rima glottidis* is quite previous.

In not a few instances has the epiglottis been found on dissection to be closely applied to the opening of the larynx, so that all attempts to inflate the lungs, by blowing air from the mouth or nostrils, must be entirely ineffectual. This state has been observed to be, on the whole, more frequently the case in that kind of asphyxia induced by the inhalation of carbonic acid, than in any other. It may be well therefore, whenever we have reason to suspect that the insufflated air does not readily enter the air-tubes, that we either introduce an elastic tube, a catheter or such-like instrument, into the larynx from the mouth or nares, *or* proceed at once to the operation of laryngotomy. The mere division of the integuments and making an opening into the larynx are attended with but trifling danger; and the time that may be thus saved and the direct and easy introduction of the air into the lungs, thus performed, are most important advantages. It is more than probable that, if the operation were more frequently performed at once, and no time were lost in making attempts to inflate the lungs in the ordinary manner, not a few lives might be saved. When we have every necessary and convenient instruments, such as tubes, bellows, &c. at hand, the operation may be generally dispensed with; but summoned unexpectedly, as the surgeon usually is to a case of suspended animation, without the benefit either of assistants or even of the appropriate instruments, we should advise him to open the larynx at the thyro-cricoid space, and, either directly with his mouth or with the aid of a sort tube inserted into the wound, keep up a continued and regular insufflation of the chest for a considerable length of time, until natural respiration is re-established.

COMPARATIVE ANATOMY.

I. NERVOUS SYSTEM OF THE AMPHIBIA.

I. ILLUSTRATIONS OF THE COMPARATIVE ANATOMY OF THE NERVOUS SYSTEM. By *Joseph Swan*. Part III. Price 7s. Quarto, pp. 21. Plates VI. Longman's, London, 1837.

II. OUTLINES OF COMPARATIVE ANATOMY. By *Robert E. Grant*, M.D. &c. &c. &c. Part Third. London. Bailliere, 1836. Part Fourth, 1837. Price Four Shillings each Part.

MR. SWAN is, as all our readers, nay as all the profession know, a very zealous cultivator of anatomy. With unwearied assiduity, he ascertains the facts on which hypotheses are grounded and by which they must finally be tried. To his pages we may always turn with the certainty of finding faithful representations of nature, and the library of the philosophical physician or surgeon is defective unles it contains them.

The first Plate of the present Part exhibits the distribution of the olfactory nerve, of the fifth nerve, of the splanchnic and visceral banches of the sympathetic nerve of the turtle.

The second plate represents the sympathetic nerve of the turtle.

The third plate gives a general view of the nerves of the turtle.

The fourth plate represents the brain of the turtle—the nerves of the frog—the brain and posteror or superior surface of the spinal marrow of the same—the brain of the boa-constrictor—the spinal cord of the same.

The fifth plate displays the origin of the cerebral nerves of the boa-constrictor.

The sixth plate displays the sympathetic nerve of the snake.

The part concludes with some observations on the nervous system of the amphibia, which we shall introduce to our reader. We shall premise that these observations have been entirely derived from dissection of the snake, and frog, and two species of turtle, a circumstance which Mr. Swan does well to mention in a distinct manner.

The brain of amphibia, says Mr. Swan, differs from that of fishes externally, in the size and shape of several parts. In the larger size of the anterior lobes, in which there is a capacious ventricle, a prominence in this that may be compared with the striated body and a choroid plexus, in not having any mammillary eminences. In having small thalami, connected together in the turtle by a very tenacious commissure, but not placed as in mammalia with respect to the lateral ventricles, but behind these and out of the cavities, and their situation is even more remarkable in the frog. In having posterior as well as anterior commissures, the anterior alone existing in some fishes. The ventricle in the optic lobe is very similar; but in the floor of this, the logitudinal bands extending towards the calamus scriptorius are more prominent. It differs in the very dense membrane covering it, especially in the turtle, in not having so much space in the skull, and not being placed in a fine reticulated membrane containing fluid. In having a pineal gland as well as pituitary one.

The cerebellum of the turtle differs from that of fishes in its smoothness and roundness, in not having lobes or an appearance of convolutions, as in the skate; in the thinness of its parietes, and the greater capacity of the ventricle.

In the snake, the brain is nearly the same as in the turtle; and there is not much difference in the frog, except that the thalami appear externally. In the snake and frog the cerebellum is so small, as hardly to bear the comparison with that of the turtle or fishes.

Dr. Grant remarks that;—in the perennibranchiate amphibia, and in the larva state of those which lose the gills, the spinal cord, the medulla oblongata, and the cerebral parts contained within the cranium present the same proportions and general condition which we observe as permanent characters in most of the osseous fishes; but the cerebellum is generally smaller in amphibia and reptiles than in all the other vertebrata. As in the lower fishes, the spinal chord in these inferior forms of amphibia is prolonged, small and tapering, through the greater part of the coccygeal vertebræ, without distinct enlargements where the nerves usually come off to the arms and to the legs. The medulla oblongata is yet broad and lobed, the cerebellum in form of a very small median transverse lobe without hemispheres, the optic lobes large, cineritious, smooth without, hollow within and quite exposed, and the cerebral hemispheres, extended longitudinally, smooth and cineritious externally, without internal ventricles, and smaller than the optic lobes. The metamorphosis of the caducibranchiate species changes the condition of their nervous system from that of the lower fishes to nearly that of the reptiles above them; and these changes are effected so rapidly that we can perceive a marked advancement in the development of the nervous system of the tadpole produced in one day.

The long narrow cerebral hemispheres of adult frogs, proceeds Dr. Grant, taper to the olfactory nerves which commence with cineritious tubercles, and the optic nerves are observed distinctly to cross each other before the optic tubercles. The changes effected in the nervous system by the metamorphosis of the higher amphibia closely resemble those produced by development in the human embryo.

In the class of reptiles, we still quote Dr. Grant, the small cavity of the cranium nearly corresponds with the dimensions of the enclosed brain, as in some fishes, and the superficial cineritious substance still predominates over the internal white fibrous matter, though to a less extent than in fishes and amphibia. The cerebellum is remarkable for its proportionate smallness in this class, and the cerebral hemispheres, containing each a distinct ventricle, now always exceed the optic lobes. The spinal chord of serpents, from their want of arms and legs, is still destitute of enlargements, as in the apodal fishes, but the medulla oblongata is of considerable size, and the fourth ventricle, still uncovered by the small cerebellum, descends into the spinal chord. From the smallness of the brain and cranial cavity in the centre of the head of reptiles, the relative size of these parts does not influence that of the whole head at different periods of life, and the head preserves the same proportions to the rest of the body through life also in amphibia and fishes. From the still imperfect development of the cerebral parts in this class, the vital functions of reptiles are less immediately dependent on them than in hot-blooded animals, and they longer survive their mutilation.

We now return to Mr. Swan. The observations we are about to introduce appear to us to be important, particularly at the present moment, when the excito-motory hypothesis is attracting general attention.

> "The brain of amphibia, compared with that of fishes, is rather more complicated, but still has very little development of parts ministering to the general functions of the body; the principal portions are larger or smaller, according to the required extent of the senses and the power of intellect. In both these classes the oblong medulla bears a greater proportion to the size of the brain than in the higher, and seems to be equally connected with the animal functions, and the lobes of the brain, as in them, to be superadded. The large size of the spinal marrow, as compared with that of the brain, is also very remarkable. When, therefore, the vast intricacy and number of the organs of the body in both these classes is considered, and that they are nearly as great as in the two higher classes, and when it is observed how small the size of the brain is in proportion to the nerves, it must be concluded that both the oblong and spinal medulla have peculiar and important functions; as the nerves bear no proportion to the size of the brain, but only to that of the oblong and spinal medulla, it must also be concluded that their power is principally derived from these parts. Appropriate functions are, however, performed by the nerves and their

ganglia, and it may be presumed that some power is inherent in them, for there is very little else belonging to the nervous system of many invertebrated animals.

The power of the nervous system is, in many respects, increased or diminished according to the quantity of nervous matter forming the centres, and the supply and quality of the circulating fluids. When the blood is less perfectly changed by respiration, the brain is less, as in fishes and amphibia; the spinal marrow, however, is not less, but is proportionate to the requisite quantity of nerves for the supply of the body, as in birds and mammalia. The more extensive change of fluids, as in these higher classes, is not therefore necessary for the preservation of the nervous matter; but a greater bulk of brain under this imperfect oxyganization of the blood, as in fishes and amphibia, is not generally consistent with the free and healthy functions of the various organs of the body, and even with the maintenance of life. The structure of the brain and spinal marrow of fishes and amphibia is somewhat different from that of birds and mammalia; but they can display great muscular power in the same manner, although it is doubtful whether they can maintain it for the same time.

When the circulation is more languid, the animals exposed to low temperatures, and the motions of the tail not very great in individual parts, it appears that the continuation of the spinal marrow is preferred to the usual cauda equina of mammalia; and it is very probable that the power of the nerves is thus less easily intercepted, and the functions of the parts, under all circumstances, are more certainly preserved. But even in the higher classes, and particularly in birds, when the spinal marrow can be conveniently accommodated, it may with greater security allow of the distribution of the numerous small nerves issuing from it." 71.

Of course it would be unphilosophical to look upon the condition of the nervous system or on that of the vasculo-respiratory as respectively cause or effect—the one of the other. The entire class to which the animal belongs holds a definite rank in the zoological scale, inferior to one, superior to another. The subordinate systems of which it is composed harmonize with one another, and all are regulated by some general laws and occult formative power. If here and there some particular organ is more highly developed than in higher classes, it is evidently for a special purpose, and even its perfection is confined within definite limits.

Dr. Grant remarks that in the saurian and chelonian reptiles the posterior and middle enlargements are obvious on the spinal chord at the origins of the nerves of the extremities. The wide medulla oblongata within the cranium is marked longitudinally by the limits of its three component fasciculi on each side, and the decussating bands of its corpora pyramidalia are more distinct that in fishes. The nerves of the body bear a large proportion to the size of the cerebral centres, and correspond in their distribution to those of the higher air-breathing classes. The great ganglia and plexuses of the sympathetics now more closely accompany the arterial trunks, as we see to become more exclusively their distribution from the articulated and the molluscous classes up to man. The twelve pairs of cranial nerves are seen here as in birds and mammalia, and they chiefly arise from the enlarged medulla oblongata.

The following statements of Mr. Swan are full of anatomical interest.

"In amphibia the nerves are firmer than in fishes, and acquire much magnitude from the addition of neurilema. In the snake, those about the throat are not only tortuous, but in a considerable degree elastic, and thus allow of being sufficiently extended to deglutition. They are large in comparison with the whole brain, but accord with the size of the oblong and spinal medulla, as in fishes. In the turtle and snake, the olfactory nerves have not distinct ganglia: after being joined by the first trunk of the fifth, they are distributed in coarse branches on the Schneiderian membrane, and appear similar, although the turtle feeds on vegetable, and the snake on animal substances; but it may be remarked, that their structure corresponds very much with that of the splanchnic plexuses, which have not ganglia intermixed with, or giving immediate origin to them. The origin of the optic nerves is from the optic lobes and thalami, and not from the optic lobes and mammillary eminences, as in fishes. In the other nerves of the orbit there is not any particular change, except that the sixth is larger, and supplies the additional muscles, which do not exist in fishes; and in the turtle the ciliary nerves proceed from a junction of branches from the third and fifth nerves, but this has not the form of a ganglion. The fifth has not a very distinct smaller portion for joining the third trunk, but there is a greater resemblance to the form of the Gasserian ganglion than in fishes; the usual cutaneous branches pass through perforations in the bone to the parts beneath the horny covering in the turtle, but this disposition does not exist in the same degree in the snake, and is therefore a peculiarity for corresponding with the conformation of the parts receiving them. The par vagum and glosso-pharyngeal at their origins are not very different from the same in fishes, except that they are not so much connected with the auditor nerve; but even in the turtle and snake there are differences which may be best judged of by a reference to the plate. In the snake so many communications between the glosso-pharyngeal, par vagum, and ninth, takes place before branches are given off to supply any parts, that it is very difficult to determine with precision the destination of each, for the muscles and other structures of the throat are so complicated, and at the same time so connected in function, that although the nerves be different at their origins, yet it seems they must be connected for associating the actions of the parts receiving them. In amphibia the par vagum appear to supply almost entirely the heart. When the slight difference between the summit and base of the brain in the turtle and skate is considered, it cannot fail of being remarked that so many more nerves exist in the turtle than in the skate, as the hard portion of the seventh, a more distinct auditory nerve, the ninth and accessory; the brain of the skate is, however, more simple in some respects, and several parts of the body are different from the turtle." 72.

Mr. Swan states that, with respect to the sympathetic nerve, there are several varieties in different genera of amphibia. In the turtle and snake, there is not a canal in which the sympathetic passes with a vertebral artery; the branch, according with the one ascending from the first thoracic ganglion in mammalia, passes on the outside of the spine in the turtle, and in the snake, in an incomplete canal near the connexion of the ribs with the eleven superior vertebræ. In the turtle, there is a prolongation, but no cervical ganglia; it is more or less closely attached to the par vagum, but does not exist in the snake, or, if it does, its small size prevents its being easily recognised and distinctly separated. The sympathetic does not appear to be more highly evolved than in fishes; for in the turtle, the ganglia attached to the prolongation are very diminutive, except the first thoracic, which is broad, and has a membranous character; and in the snake, except at its superior part, where there is one remarkable ganglion connected with the trunk of the par vagum, and several smaller ones at the junction of the sympathetic with branches of the second trunk of the fifth proceeding to the palate and nose; in the snake for some distance there are very slight plexiform junctions of the branches from the spinal nerves which join the prolongation; but these plexuses are in some parts more complicated, and in both the snake and turtle exist for giving off the nerves to the viscera instead of the close and fleshy semilunar ganglia. In the frog as in the snake, except the first cervical, no other distinct ganglia of the sympathetic exist, and the branches destined for the abdominal viscera also join a prolongation from which the splanchnic branches are derived.

If any thing definite is to be determined with respect to the functions of the sympathetic, it will be mainly effected by tracing its developement through the ascending series of animals. A dependence of the cerebro-spinal system, it will perhaps be possible, with the advance of knowledge, to trace its advance from a simple spino-cerebral plexus to a system such as we see it in man, with its special ganglia and its special apparatus of nerves and plexuses.

The last observations of Mr. Swan relate to the spinal nerves. In the snake, he tells us, they are not very different from those of fishes, except in the closeness of their origins, and the more regular communications of the anterior and posterior bundles of each nerve, and having more distinct and fleshy ganglia. In the frog there is one large nerve instead of a number forming the axillary plexus, as in the turtle: in both however there is a plexus resembling that in the higher class for giving off the nerves of the posterior extremities, and the spinal nerves, entering it, correspond with these, inasmuch as they have their origin from the inferior part of the spinal chord, just above that from which the caudal nerves usually issue.

We cannot take our leave of Mr. Swan without strongly recommending his work to the notice of our readers, nor without urging himself to persevere in his honorable and scientific labours. Those labours are of the best description, because they consist in the determination of particulars, on which all generalizations must be based. But we would venture to suggest to Mr. Swan, for the sake of the reading public, as well as for his own, to add to those particulars, generalizations and summaries as wide and comprehensive as exact knowledge will permit. His researches being thus rendered more pleasing will in the same ratio be more instructive.

II. Comparative Anatomy of the Digestive Organs, Chyliferous and Sanguiferous Systems.

The two parts of Dr. Grant's Outlines before us present a very fair account of the apparatus of digestion in the various classes of animals. It is traced from its most simple to its most complicated forms and pursued through its various phases of developement.

We shall not attempt a complete account of so extensive a subject, an account which must necessarily comprise details unsuited for a practical journal. We shall merely present in a series of slight sketches, a notice of some of the more striking circumstances connected with the comparative anatomy of the digestive organs.

Dr. Grant commences their examination with some general observations of an interesting character. We extract them.

> "As an animal," he say, "is but a moving sac, organized to convert foreign matter into its own likeness, all the complex *organs of relation* or *of animal life* serve

but to administer to this digestive bag. The *bones*, connected together by their *ligaments*, are but the solid levers which enable the *muscles* to move it to and fro, and the *nervous system*, with its various *organs of sense*, serve but to direct its movements in quest of food. The unorganized food of plants is placed by nature in contact with the exterior surface of their body, and their vessels are directed thither to select and absorb it, which roots them through life to the soil where they grow; but as animals place their food within their stomach and have their roots directed inwards to that central reservoir, they can change their place and move about in quest of what is most congenial to their nature. The *organs of animal life* relate to this difference between the two organic kingdoms, to the locomotive powers of animals for the selection of their food; but the *organs of vegetative life* relate merely to the assimilation of food when already within the body, and are, therefore, common to animals with plants. The alimentary surface of the plant is the exterior of its root, ramified and fixed in the soil which affords it food, so that a vegetable is like an animal with its stomach turned inside out. As the organs of relation are those most immediately connected with the varying external circumstances of animals, they are the most variable in their character and inconsistent in their existence; but those of vegetative or organic life relating to the more common and necessary functions of assimilation are much more regular and constant in their character. No organ, indeed, is more universal or essential in animal bodies than that internal digestive cavity by which they differ so remarkably from the species of the vegetable kingdom. This internal sac is but an extension of the primitive absorbent surface of the skin, which, in animals, passes into or through the homogeneous cellular tissue of the body. And, although in the simplest forms of animals, this primitive sac performs alone all the assimilative functions, we find it, as we ascend in the scale, giving origin to various other organic systems, to which distinct parts of the complex function of assimilation are successively entrusted. Thus the peripheral nutrition of the plant passes gradually into the central mode of the animal, and the organs of organic or vegetative life, whether they open internally into the digestive cavity, or on the mucous surface of the skin, may be considered as originating from the exterior integument, which is itself only a portion of the primitive cellular tissue of the body, modified by the stimulating contact of the surrounding element. As the various tubulent prolongations of the alimentary canal become more and more developed and isolated from their primitive source, they assume properties and functions more and more peculiar and distinct, and thus form the numerous follicular and conglomerate glandular apparatus, and the various vascular systems, of animals. An alimentary cavity is observed in every class of animals and almost in every species, and its form and structure vary according to the situation of animals in the scale, or according to the kind of food on which they are destined to subsist, and the extent of elaboration it requires to undergo to assimilate it to the animal's body. The peculiarities presented by the digestive organs are, therefore, intimately connected with the diversities of form manifested by the organs of animal life, and with all the living habits and instincts of animals." 305.

A. Digestive Organs of the Cyclo-neurose, or Radiated Classes.

The lowest class of animals is termed by Dr. Grant the cyclo-neurose, or radiated, from the anatomical disposition of its nervous system. In this class Dr. Grant examines the digestive organs as they present themselves in the polygastrica—the poriphera—the polypiphera—the acalepha—the echinoderma. We shall not follow strictly this scholastic arrangement.

A. *Polygastrica.* In the cyclo-neurose class, we find the simplest forms of animal existence. In reference to the digestive apparatus, perhaps, the polygastrica can hardly be considered to present the *most* simple. *They* derive their name from the numerous internal digestive cavities observed in them. Dr. Grant gives a general account of them in these terms:—

From the great transparency of these microscopic animals, their digestive sacs, when empty, or when filled only with water as they often are, appear like portions of the common cellular substance of the body, or like gemmules or internal animalcules, and from not being easily or generally recognised as alimentary cavities, many, like Lamarck, were led to believe that these animals were without a mouth or any internal organs, and were nourished by superficial absorption, like marine plants. Lewenhoeck, however, observed that they possessed an internal cavity, and devoured each other; the same was seen by Ellis; Spallanzani perceived them swallowing each other so voraciously that their bodies became distended with their prey; and Goetze designated the *trichoda cimex* the wolf of infusions from its rapacity among the smaller animalcules. Gleichen placed animalcules in infusions coloured with carmine in order to discover the forms of their digestive cavities, and he has figured many *trichodæ*, *vorticellæ*, and other animalcules with their internal sacs filled with this coloured matter; the same was done by Trembley; and these stomachs are figured by Müller, Bruguiere, and most others; but Müller supposed that they fed upon water, from their stomachs being most frequently filled with that fluid. Ehrenberg has more extensively employed opaque colouring matter to detect the forms of these internal cavities, and by using principally carmine, sap-green, and indigo, carefully freed from all impurities which might prevent their being swallowed, he has succeeded better than his predecessors in unfolding the structures of the digestive organs of animalcules. Such coloured organic matter, diffused as fine particles mechanically suspended in the water in which animalcules are placed, is readily swallowed by them, and renders visible, through their transparent bodies, the form and disposition of their alimentary cavities; but, however long they remain in these coloured infusions with their stomachs distended with the colouring matter, it is not perceived to communicate the slightest tinge to the general cellular tissue of their body. They appear to possess an acute sense of taste in rejecting coloured metallic and other substances which might prove hurtful to them, and their food appears to consist chiefly of smaller animals of the same class and of particles of mucus or other decomposed organic matter found in the water.

In the simplest of the polygastrica, there is but one general orifice to the alimentary cavities, which is placed at the anterior extremity of the body and is surrounded with long vibratile cilia, which serve both as organs of motion and tentacula. The several stomachs covered by the general wide integument, open by distinct short œsophageal canals into the common buccal orifice, and there is no separate anal aperture for the excrementitious residue of digestion. In the *monas termo*, continues Dr. Grant, which is only about the two-thousandth of a line in diameter, four to six of these small round stomachs have been observed filled with colouring matter, although they did not appear to be half the number which might be contained in its body; each of these stomachs, of about the six-thousandth of a line in diameter appears to open, as in other *anentera*, by a narrow neck into a wide funnel-shaped mouth, surrounded by a single row of long vibratile cilia, which attract the floating organic particles, or minuter invisible animalcules, as food.

B. *Polypiphera.* The hydra, or fresh-water polype presents a very simple form of digestive apparatus. It has been described particularly, as our readers must be well aware, by Trembley. The polype exhibits a simple sac excavated in the cellular substance of the body, and destitute of all cœca or glandular appendices, and even of a distinct anus. The parietes of this simple polype appear to possess the same properties in every part, as they continue to seize and digest food when the animal is turned inside out, and each part of the animal, when cut to pieces, is found to develop itself to a perfect polype. What was formerly the internal digestive surface is found also to become the generative, and to produce gemmules and young polypes when the animal is turned inside out. They feed chiefly on larvæ and annelides which they search for and seize by the long tentacula developed from the sides of their mouth, and they often swallow animals many times larger than their own body, by stretching their thin elastic parietes over their prey. The digested part of the food passes through the common cellular tissue of their body, and through their tubular tentacula, and the residue is thrown out by the mouth.

C. *Poriphera.* Another very simple form of digestive apparatus is observable here. It approaches very nearly to that of plants.

The cellular tissue of their body is permeated in all directions by ramifying and anastomosing canals, which begin by minute superficial pores closely distributed over every part, and terminate in larger orifices variously placed according to the exterior form of the entire animal. In the minute superficial absorbent pores we can generally perceive a fine transverse gelatinous net-work and projecting spicula, to protect these entrances from the larger animalcules and from noxious particles floating in the water. The internal canals, like the veinous system, leading from capillaries to trunks, are bounded internally by a more condensed or more highly organised portion of the general cellular substance of the body, and are incessantly traversed by streams of water, passing inwards through the minute pores, and discharged through the larger orifices or vents; but no polypi have been observed in any of those parts, nor even cilia, although from analogy we may suppose them necessary as the active agents of the currents. In this simple organization there appears to be only an increased extent given to the general cutaneous absorbent surface; there are yet no distinct cœca or stomachs for receiving and retaining the aliment that has been conveyed into the body along with the currents of water. From the incessant manner in which these traverse the body, it would appear that all parts of the interior of these animals, like the exterior surface, of their general cellular tissue, are adapted to admit by endosmose, and to assimilate nutritious matter to the texture of their body. On watching the streams of water that issue from the vents, minute flocculent particles are observed incessantly detached from the interior, and thrown out with the currents, these appear to be fine mucous pellicles excreted from the surface of the internal canals, as the residue of digestion thus detached from the body. A similar mode of excretion is often seen on the naked mucous surface of zoophytes, where thin pellicles are periodically detached from the soft exterior of the body.

So far as we have gone the digestive apparatus has been limited to this:—either it has been one large pouch with a single aperture armed with instruments of prehension, as in the hydra—or a similar pouch with cœca developed from it, as in the polygastrica—or a canal, with an orifice of ingress and of egress, and a current of water, carrying the nutritive matter, passing through it. A little higher and we perceive the simple idea represented by these several contrivances carried farther.

D. *Acalepha.* We see the central cavity provided with several canals or apertures of ingress. The resemblance to the spreading roots of trees has obtained for the creature which offers an apparatus of this sort, the name of rhizostoma, from the immortal Cuvier. Such animals, like inverted zoophytes torn from their fixed attachment and floating through the sea with their polypi extended in all directions, have numerous small pendent orifices at the extremities of peduncles more or less ramified and extended, and these polypiform mouths lead by narrow canals to a central sac, from which the nutritious matter is sent by numerous radiating ramified ducts to all parts of the body. Larger and more direct openings, vary in number in different animals, are also generally observed leading into this gastric cavity, which is sometimes central and single, and in others is divided into compartments disposed around the vertical axis of the disk.

E. It is obvious that the digestive cavity would be perfected by having a distinct aperture for ingress, and another for egress, at its extremities. We should then have a digestive canal receiving the nutriment at one end—retaining it for a sufficient time—and ejecting at the other end the useless residue. In other words, we should have a mouth and an anus. We see this in many of the polygastrica. There is in many of them an alimentary canal, with an oral and an anal orifice, which traverses the body, and is provided with numerous small round cœcal appendices, which open into its parietes throughout its whole course, and which appear to perform the office of stomachs in receiving and preparing the food.

A similar arrangement obtains with some of the acalepha. The Beroë pileus has a straight alimentary canal passing through the long axis of its body, commencing at the lower part with four thin prominent contractile and highly irritable lips surrounding the wide oral aperture. The contracted œsophageal part is succeeded by a gastric expansion of this straight canal, containing frequently minute entomostracous crustacea which have been swallowed as food, and a narrow straight intestine terminates in a prominent anal orifice at the upper part of the body.

In the *Echinoderma* this disposition becomes more general, and we see in many of them the evident preparation for the arrangement which becomes common in the *Articulata.* To the latter therefore we pass.

B. Digestive Organs of the Articulata.

A. The *Entozoa* present generally the simplest form of alimentary apparatus met with in the articulata. In all the nematoid and more perfect forms of entozoa the alimentary canal passes simple through the body, presenting a distinct oral and anal aperture which are generally at the opposite ends of the trunk, as in the higher articulata. The *ascaris,* like the other nematoid worms, has a single oral aperture at the anterior extremity of the body; the three marginal lobes of the mouth are provided with minute teeth and moved by distinct muscles, so that the mouth somewhat resembles that of the leech in its masticating apparatus. The œsophagus forms a wide elongated muscular sac, like that seen in the *halithea* and some other annelides; it is contracted at its lower part, and opens into a straight and wide intestinal canal with thin parietes, and where the limits of the stomach are seldom indicated by an inferior constriction.

B. We have arrived at an intestinal tube, prolonged to a greater or a less length, and provided with an aperture at either end, adapted for the respective purposes of receiving or of discharging the food of the animal. The next step towards perfecting the digestive apparatus is to dilate the tube in certain situations, in order that its contents may be allowed to rest in it, and to provide it with secreting appendages which may pour upon those contents such secretions as are adapted to act on it chemically or vitally. All this we see effected in the class of animals before us—a class which presents, we might say, *in petto*, almost all the characteristics of the very highest.

In the *diglena lacustris*, one of the *rotifera*, the sharp-pointed maxillæ and their muscular apparatus are succeeded by a lengthened and narrow œsophagus which opens into a short defined globular stomach. From different parts of the stomach two large and five small elongated cœca arise, which appear like hepatic or glandular follicles, and do not admit into their interior the larger undivided portions of the food contained in the general gastric cavity. From the pylorus, the intestine continues downwards narrow and nearly straight, to terminate in the cloacal opening at the posterior end of the body, close to the two fleshy peduncles.

C. We have now but to render the dilatations of the intestinal tube more definite—the secreting follicles more perfect—and to provide a triturating apparatus, and we have arrived at the essential items of the digestive organs of the animals highest in the scale. All this we are able to distinguish in the *insecta*.

"The digestive organs," says Dr. Grant, "have arrived at a high degree of development in insects, and already present, in an embryo-state, almost all the assistant chylopoietic organs of the highest animals, as the liver, the salivary glands, the pancreas, and many other parts important in the process of assimilation. They vary much, however, in their form and extent of development according to the consistence and the nutritious quality of the food, the peculiar living habits of the species, and the condition of the animals with regard to their metamorphosis. The mandibulate forms of the masticating organs are best adapted for comminuting hard substances, and the tubular form or proboscis for sucking food in a soft or fluid state, but even suctorial insects require some form of these hard parts to pierce the surface from which they are to obtain their liquid food. The mouth of insects is furnished with an upper and lower lip (*labrum* and *labium*,) a pair of strong proximate *mandibles* and a pair of exterior *maxillæ* which move transversely. The labium and the maxillæ support each a pair of *palpi*; the dense posterior part of this lower lip forms the *mentum*, and its soft anterior portion supports the fleshy prominent *tongue*. The masticating organs present infinite varieties of form according to the difference of food in insects, as in other classes of animals, but the same constituent parts of the mouth can be recognized in all the different forms of mandibular and haustellar apparatus. The same buccal organs form broad, short, and strong cutting instruments, which move transversely, in those insects which subsist on hard food, and long, slender, tubular apparatus, capable of extension and retraction, in those which suck fluid or soft substances. These parts often change from the one form to the other in the same insect, while it changes its kind of food in the progress of its metamorphosis; and where the food is the same in the larva and imago, the masticating organs preserve the same form in these two conditions of the insect. The food reduced by the mandibles and maxilla and mixed with the secretion of one or more pairs of salivary glands, is transmitted by a pharynx of variable length, to the œsophagus and alimentary canal. The œsophagus commences by a narrow canal which generally forms an enlargement of *crop* at its lower part, for receiving and collecting the food when first swallowed; this enlargement of the œsophagus is often covered with minute short glandular follicles which open into its interior. Below the crop is a small but strong muscular *gizzard*, with thick parietes, and provided internally with numerous longitudinal rows of hard sharp conical horny teeth. This muscular triturating stomach is most developed where the hardness of the food most requires its aid, as in most of the orthopterous and coleopterous insects; but where the food is liquid, as in most of the sucking hemiptera, the gizzard is scarcely perceptible. The largest, the most constant, and the most important gastric cavity in insects, is the long, wide and highly glandular *chylific stomach* which extends generally from the gizzard to the insertion of the hepatic ducts. The chylific stomach is, for the most part, amply furnished with considerable glandular follicles, which are developed from its whole parietes, and open by separate orifices into its inferior. This cavity is frequently of great length, and partially divided by numerous transverse constrictions, it is then most wide and glandular at its anterior or proximal part, becoming narrower like the intestine at its lower portion. The intestine, from the termination of the chylific stomach to the anus, is most variable in its length and capacity, and in the number and extent of its dilatations. Like the masticating organs, the gastric cavities and the whole alimentary canal have their forms regulated and impressed by the kind of food which they are destined to assimilate, or the quantity they are adapted to consume. In the voracious and inactive condition of the developing larva, the stomach is often found of enormous capacity compared with the diminutive size to which it is reduced in the more parsimonious and active state of the mature winged imago.

The alimentary canal of insects presents a distinct internal mucous lining, an external peritoneal coat, and muscular fibres, both transverse and longitudinal, can be easily perceived in its parietes. The interior of the mucous coat presents a smooth surface, as in most of the lower invertebrata, having neither plicæ, nor valvulæ, nor villi, to increase its extent, and exterior to this there is commonly a loose cellular or follicular enveloping tissue. The exterior peritoneal coat forms a distinct thin mesentery, which is covered with the minute ramifications of tracheæ, and which connects the convolutions of the intestine with the interior of the abdominal segments. The ramifications of these white opaque air-vessels on the mesentery are seen in the common blue fly, and in most of the larger insects, without the aid of a lens, and appear like the branches of blood-vessels. The peristaltic motion of the intestine is obvious on opening the abdomen of the living insect; and in the short trunks of many of these animals, the intestine measures several times the length of the whole body." 349.

D. We have arrived at what we may consider a pretty perfect formula for a digestive apparatus. That consists of several subordinate apparatus—of one for trituration—for dilation or insalivation—for transmission (a pharynx or œsophagus)—for chymification and chylification, a stomach and intestinal canal, with its secreting appendages, pancreas and liver or their analogues—and, finally, for defæcation. It is not consistent with our present object to enter fully on the examination of each part of this complicated and perfect apparatus. But we may observe that, in the animals which have it, it is modified according to the circumstances which affect them, and on those modifications we shall lightly touch.

C. MODIFICATIONS OF THE DIGESTIVE ORGANS IN THE HIGHER ANIMALS.

A. The circumstance which above all others modifies the digestive apparatus, is the animal or vegetable nature of the food. We see this as strongly marked in the articulata as in the vertebrata, and hence the great division of animals into carnivorous and granivorous.

In the *carnivorous*, the digestive tube is shorter—the glandular organs frequently less perfect—the triturating infinitely less so—the intestinal dilatations less marked and less disposed to affect the form of cœca.

In the *granivora*, the converse of all this is seen, and the triturating apparatus especially, perfected.

We may compare, for example, the carnivorous insect—the *cicindela campestris,* with a herbivorous—the common *coleopterous cockchaffer.*

In the *former*, the digestive canal passes nearly straight through the body. The œsophagus, commencing narrow as usual from the posterior opening of the head, dilates below into a wide crop, presenting several longitudinal rows of very minute follicles. The crop is succeeded by a short muscular gizzard, and this by a capacious chylific stomach, covered with numerous glandular follicles, and tapering downwards to its pyloric extremity, where it is perforated on each side by two simple convoluted hepatic vessels. From the chylific stomach the intestine continues downwards very narrow, and nearly straight, to a short dilated colon, which contracts before it terminates in the cloaca.

In the *cockchaffer*, which feeds on the leaves and shoots of our garden plants, the whole digestive apparatus is long, complicated, and capacious. The œsophagus passes out narrow from the head, and dilates below into a short conical, crop, which is succeeded by a very minute gizzard, and a long convoluted chylific stomach. The anterior portion of this lengthened glandular stomach is wide and sacculated by numerous transverse strictures, and terminates insensibly in a narrow convoluted pyloric part, which dilates into a small round vesicle at the lower end, where it receives the openings of the hepatic vessels. The two hepatic vessels on each side are here, in accordance with the coarse nature of the vegetable food, very long, wide, and convoluted, and have their secreting surface greatly extended by the development of innumerable small lateral follicles, which give them a pinnated form throughout the greater part of their course; thus presenting the most complicated condition of the liver met with in insects. The lower portion of the intestinal canal has also its capacity increased by distinct dilatations on the parts analogous to the colon and the rectum.

B. The varieties exhibited by one of the dilatations of the digestive tube—the stomach, display the modifications dependent on circumstances in a striking manner.

In a pure carnivorous mammal it may be a simple globular sac. From that simple form we may trace it to the less carnivorous tribes, to the quadrumana and man, in whom it has become transversely elongated with a cardiac fundus or cœcum. In many of the rodentia, the thin membranous cardiac portion forms a considerable cæcum, and is partially separated by a constriction from the more muscular pyloric half of the cavity. The great development of the gastric glands around the cardiac orifice of the stomach in the beaver and the wombat, is required by the coarse vegetable food on which they subsist, and point out an analogy between this part and the glandular infundibulum at the cardiac orifice of the gizzard in birds. In several phytophagous mammalia, belonging to different orders, as among the pachydermata, masupialia, edentata, and even quadrumana, internal folds or external cœca divided the cavity of the stomach to a greater or less extent, and from the epidermic lining extending over the cardiac sacs thus formed, we observe a gradual transition to the complex stomachs of the cetacea and ruminantia, where the several compartments have different structures and functions.

But it is in the ruminantia that the stomach has attained its acmé of development. As Dr. Prout has observed no cookery can enable man to subsist upon the grasses. Yet they furnish the food of a most important class of animals. and these being chiefly the food of man himself, he thus indirectly lives upon the grasses. The means by which the ruminantia convert the grasses into food are pretty clearly described by Dr. Grant.

> "The ruminating quadrupeds have the masticating and salivary organs most perfect, the œsophagus long and narrow, four gastric cavities with distinct functions, the intestine and colon long, capacious and distinct, and an enormous *cæcum coli.* The œsophagus, as seen in the annexed figure of the stomach of the *lama* of Peru, enters directly into the first large cavity or paunch (*ingluvies*), placed on the left side, analogous to the crop of birds, and serving the office of the cheek-pouches of other quadrupeds. This capacious cavity is partially subdivided by large internal folds, and is lined with closs, small but lengthened villi, covered with a thick epidermis. The same epidermic covering is continued distinctly over the second and third cavities. The second stomach or *reticulum* placed more anteriorly and to the right of the former, is much smaller, and has its mucous lining elevated into reticulate folds forming polygonal shallow cells. This cavity also communicates with the œsophagus, and presents two thick muscular valvular folds across the opening of communication, by the closing of which a canal is formed which leads to the third cavity of the stomach.
>
> The paunch receives the crude-unmasticated vegetable food collected in large quantity while the animal is erect and grazing, and the process of rumination generally commences when this cavity is filled, and the animal is reclining at rest. In rumination, small portions of the unmasticated food, moistened and softened in the paunch, pass into the second cavity to be sent by its contraction, as a bolus, upwards through the muscular œsophagus to the mouth. After being thoroughly masticated and salivated in the mouth, the bulos returns, as a soft pulp, by the œsophagus; and, its stimulating quality being now altered, it finds the two valvular folds at the lower end of the œsophagus closed, and shortened by contraction, and is directed by the short canal they thus form, into the third, and thence into the fourth cavity of the stomach. The third or foliated stomach (*omasum*) is generally the shortest and smallest, though elongated and narrow in the *camelus* and *auchenia*, and is provided internally with numerous longitudinal, alternately small and large folds, having their free margins directed to the centre of the cavity. The second and third cavities have their mucous membrane covered with small villi and distinct epithelium, like those lining the first stomach. The third cavity leads directly to the fourth or

abomasum, which is next in capacity to the paunch, lined with a soft highly vascular mucous coat, provided internally with large longitudinal folds, and apparently destitute of epidermic lining. The structure and form, and secretions of this fourth cavity, placed on the right side of the others, render it the proper digestive stomach, and the most analogous to the single digestive sac of carnivorous and higher quadrupeds." 411.

The means by which the camel is enabled to carry a supply of water sufficient for its consumption in the desert have been fully described by Sir Everard Home. The following brief notice of the apparatus by Dr. Grant will be sufficient to give our readers an idea of it.

In the camels, dromedaries and lamas, numerous rows of large, quadrangular, deep water-cells are developed on the parietes of the second stomach, and on the parts of the paunch next to that cavity. These cells are surrounded by muscular fibres which, by their contraction, are capable of excluding the food from the water-cavities; and by the gradual opening of the cells, the water is allowed to mix in successive small portions with the digesting aliment. These animals are thus enabled to convey and economise a large supply of pure water, received at long intervals in the arid plains they inhabit. The second stomach is more appropriated to the retention of water than the large paunch, and receives it directly from the mouth, unmixed with the food, pouring over to the cells of the first stomach a quantity of the fluid when its own are filled.

It is curious to observe the manner in which Nature not unfrequently accommodates herself to circumstances, and makes the same organs with a slight alteration perform almost different offices. The transformations in the embryo and fœtus, the metamorphoses of insects, will at once present themselves to the mind of the anatomist, and he finds in the ruminantia an instance of the same description. Their complicated stomachs are calculated and intended for the digestion of most indigestible substances. But the ruminating animal is a calf before it is a bull, and, when a calf, lives on its mother's milk, a highly nutritious liquid. Observes the modification in the action of the stomachs at this period.

"The fourth stomach of the ruminantia is the first developed, the largest, and alone employed for digestion, during the earlier periods of existence and during lactation. The milk, in sucking, passes down through the œsophagus to the closed valvular folds, which check its enterance into the first or second stomach, and convey it along the canal which they form, directly to the third or foliated cavity. The third stomach not having been yet distended with solid food so as to separate from each other its numerous contiguous laminæ, it merely forms a tube through which the milk passes into the fourth stomach; and thus the nutritious fluid of the parent is conveyed directly into the proper digestive stomach of the suckling ruminant, without being accumulated or retarded in any of the previous cavities." 412.

c. The triturating apparatus presents in the different classes of animals a remarkable variety. In the highest class we see it principally at the very entrance of the alimentary canal, and the moveable jaw, with its teeth adapted for cutting and for grinding, is of course familiar to us all. But in many animals the triturating implements are not at the entrance of the digestive tube, but at the stomachic dilatation. We see this not unfrequently in the articulata.

The small mouth, says Dr. Grant, of the *halithea aculeata*, furnished with two conical tentacula or antennæ, opens into a short membranous œsophagus, which terminates in a large muscular stomach with thick firm parietes and a strong coriaceous lining. The entrance of this muscular cavity is furnished with four sharp, triangular, converging, horny teeth analogous to those of the gastric toothed cavity of insects and crustacea; and this sac is also analogous to the muscular stomach of the *arenicola*, *lumbricus*, and many other annelides, and to that of the *ascaris* and other nematoid entozoa.

In the crustacea, the gastric teeth are seen in a state of high development. The wide buccal cavity of the decapods, surrounded with complicated organs of sense and of mastication, opens by a very short and narrow œsophagus into a capacious stomach, provided internally with several pairs of solid calcareous teeth, and occupying the anterior part of the cephalo-thorax. As their watery element almost bathes this gastric cavity, they require no salivary gland to soften their moist food. The gastric teeth, colored and shed like the exterior shell, are symmetrically disposed near the pylorus, and are supported by thin elastic calcareous laminæ, to which powerful muscles are attached, and which cause the teeth to meet with precision in grinding the contents of the stomach.

Another form of gastric triturating apparatus is the gizzard. Existing in the articulata, it attains its maximum in birds. It is a small muscular stomach, having a horny epidermic lining, and, to assist in the comminution of food, the bird swallows stones, which acted on by the muscular parietes of the gizzard, bruise and grind the grain. Oddly enough, Spallanzani contended that this was from stupidity. The stupidity was Spallanzani's. Dr. Grant's description of a gizzard is as follows:—

> " These muscular parietes of the gizzard form two strong digastric muscles, one anterior, the other posterior, with white shining tendons, in most gallinaceous and granivorous birds, and in many aquatic and other species. In most rapacious and carnivorous birds, the parietes of all the three gastric cavities are thin and highly extensible, and form almost one continuous stomach, with slight constrictions between its parts. The thin membranous gizzard however of these birds presents a distinct anterior and posterior central tendon, analogous to those of the two ordinary digastric muscles, and from which the muscular fasciculi, more or less developed in different species, radiate to the margins of the cavity. When this third gastric cavity is provided with strong muscular parietes, as in the gallinaceous birds, its internal epidermic lining forms a thick coriaceous dense coat, to protect the soft parts from laceration; and to enable them to act with effect upon their heterogenous contents. From the want of teeth in the mouth to act upon their hard food, these granivorous birds convey pebbles and other dense substances into their gizzard, to reduce their food, like the gastric teeth of crustacea, insects, many gasteropods, and other invertebrata; but in the carnivorous birds, with a thin membranous gizzard, no pebbles are swallowed or required, the activity of the secretions affecting all the necessary changes in the conditions of the food, aided by the high temperature, and the movements of the canal. From the proximity of the cardiac and pyloric orifices of the gizzard, it forms a sac open only above, and is not provided with the pyloric sphincter muscle, so common in other vertebrated classes. This free and wide pyloric orifice allows the food, partially digested in the three gastric cavities, and reduced by the muscular action of the gizzard, to pass out, in small successive portions, to the commencement of the duodenum. The small

internal capacity of this strong grinding organ, which is chiefly filled with pebbles, necessitates the development of other gastric cavities between it and the mouth, to receive a sufficient quantity of course vegetable food for the maintenance of these large and heavy birds." 403.

The powers of the gizzard were put to the test by Felix Plater. He gave a hen a Louis d'or—a royal meal. In a short time, we forget just now how long, it lost sixteen grains of its weight. An onyx lost in the gizzard a fourth of its weight.

Carnivorous birds, who have a very imperfect gizzard, may be brought to live on grain, when a powerful gizzard becomes developed. On the other hand, granivorous birds, who swallow stones, cease to do so if brought to feed on animal matters.

D. The varieties of *beak* in *birds* are highly interesting. They represent the teeth in being organs of offence or defence, the lips, &c. in being organs of prehension. Dr. Grant's remarks on this head are succinct, but not uninteresting.

The jaws, he says, have their alveolar margins covered, like those of chelonia, with horny plates, which vary in their forms, according to the kind of food, like the teeth of mammalia. The nearest approach to the teeth of quadrupeds is seen in the thin horny laminæ disposed along the sides of the bills in the *mallard*, and some other aquatic birds; and in the earliest condition of the birds the laminæ begin by a series of small detached tubercles, provided each with its pulp, its nerve, and its vessels, like the horny maxillary plates of the whale, and the more solid calcareous teeth of other vertebrated animals. The broad depressed bills of ducks, geese, swans, and many other aquatic birds, with dentated edges, and soft sensitive lips, are well adapted for obtaining worms or other small objects under water or in mud, and they commonly present a well-marked dental distribution of the alveolar nerves and blood-vessels, as well as a high development of the second and third branches of the trigeminal nerves. The flat spatulate jaws of the spoon-bills are adapted for quick lateral motion in the waters, and for extracting minute animals from the moist banks of lakes and rivers. The submaxillary pouch of the pelican serves as a net for seizing fishes; the straight sharp bills of cranes and storks dart with precision through the water upon their moving prey, and the long compressed bills of cormorants, gulls, albatroses, and many predaceous aquatic birds, terminate above in a sharp inverted hook, to seize firmly the smooth scaly bodies of fishes. The broad bills, with cutiing edges, of the strutheous birds, are adapted to prune the leaves and shoots of plants, and the long narrow bills of woodpeckers to be inserted into small crevices to seize minute insects; and most of the insectivorous order of birds have a similar structure on a smaller scale. The long tubular beak of the humming birds is suited for insertion into the corollæ of flowers. In the grosbeaks and crossbills, the sparrows and buntings, and all the granivorous order, and in the larger gallinaceous birds, the bills form stronger and shorter cones, broader at the base, to break down and remove the hard coverings of grains. In the climbing frugivorous cockatoos, parrots, and maccaws, the broad and powerful bills serve as prehensile organs, and to break the hard shelly covering of seeds. The bills of eagles and vultures, hawks and owls, and other rapacious birds, are strong, short, compressed, arched, curved at the point, dense in their texture, and with sharp cutting edges, to seize, and tear, and cut the flesh of living prey. So that the forms of these external parts correspond with and indicate the structure of the internal organs of digestion, and afford useful zoological characters for the divisions of this class.

E. The length to which this article has already run precludes the idea of our proceeding much farther. We are tempted to allude to one, and but one, other subject. Every one is aware how feeble, in point of chemical action, the salivary secretion is. Yet in certain circumstances, this same secretion becomes a most formidable instrument of death in the jaws of the creature that possesses it. The parotid of the rattle-snake is the poison gland. That gland lies behind and below the orbit on each side, contained in a wide cavity, is embraced by a slip of the temporal muscle, and sends its long duct to the perforated base of the poison fang.

Here, then, we pause. In succeeding numbers we shall resume the fascinating subject of Comparative Anatomy, and present a few sketches of the development of the various apparatus by which the vital functions are performed in the ascending scale of animals.

We recommend the Outlines of Dr. Grant to the attention of our readers, and particularly of the young portion of them. They will find much delightful and some useful knowledge in our author's pages. The work, from its low price, *may* be in the hands of most men—*should* be in the hands of all.

PRACTICAL OBSERVATIONS ON NERVOUS AND SYMPATHETIC PALPITATION OF THE HEART, PARTICULARLY AS DISTINGUISHED FROM PALPITATION THE RESULT OF ORGANIC DISEASE; TO WHICH ARE PREFIXED SOME GENERAL REMARKS ON THE USE OF THE STETHOSCOPE, AND EMPLOYMENT OF PERCUSSION IN DIAGNOSIS OF DISEASES OF THE HEART AND LUNGS. By *John Calthrop Williams*, M.D. Physician to the Nottingham Dispensary, &c. &c. London, 1836.

AMONG the arguments adduced in favour of Provincial Medical Schools, we do not remember having seen any notice taken of their beneficial effects as regards the teachers themselves. Urgently called upon to make themselves masters of the subjects which they are to discuss, they are led to study, and think upon them much more intently than they would otherwise do. In this way the number of labourers in the field of science is increased, and men who might, but for the application of such a stimulus, have plodded thoughtlessly on along the beaten road of practice, become careful explorers and observers, and consequently safe guides for the conducting of others.

These remarks are elicited by the fact that the volume before us consists, as is stated in the Preface, of observations which originally formed the substance of part of a course of lectures on the principles and practice of physic, delivered, about three years ago, in the then newly-established medical school of Nottingham.

The work consists, as its title indicates, of two parts. The former, occupying a space of forty-three pages, treats of the general use of the stethoscope; and might, we think, have been altogether omitted, as it contains nothing new, and is, in fact, little else than a compilation from other authors. We cannot help also remarking that the figure of the stethoscope, delineated at the beginning of the work, looks (at the present day, when the instrument is so generally and so well known) too much like vain parade. An ill-natured person might, with some show of reason, insist that it was meant for *a trumpet*, to which instrument indeed it bears no inconsiderable resemblance. But let not these remarks prejudice us in our consideration and estimate of that other part of the work, to which we mean to draw the attention of our readers.

The part here alluded to, may be divided into two sections; the first of which treats of Sympathy in general, the other of "Nervous and Sympathetic Palpitation of the Heart.

After stating numerous familiar examples of sympathy, our author says:—

> "Sympathies may be divided into *general* or *universal*—*particular* or *specific*. They may likewise be regarded as *natural* or *morbid*—or sympathies may be divided into such as manifest themselves on the organs of *volition*, such as result from *instinctive propensities* or *instinct;* and those which proceed from *emotions* and *sensations*.
>
> Those sympathies which belong to the two former heads of this division, operate through the medium of the motor nerves, if we except some few examples referable to instinct solely, which manifest themselves on the muscles of voluntary motion. They may be said to form the chain of communication between the brain and the corporal organs, and thus to enable these latter to obey the dictates of the will, and administer to the necessities of life.
>
> Sympathies resulting from *emotion* and *sensations*, on the other hand, declare themselves through the medium of a much more equivocal agent. They manifest themselves not only on the organs of volition, but only on those of *involuntary* motion, as well as on others destined to perform the functions of *secretion*. The effects they produce on the organs of volition are intimately allied to such as arise from instinctive propensities, inasmuch as they are often produced independent of the will. *Morbid* sympathies may operate in all the foregoing manners, but are principally associated with our sensations and emotions. They often are the result of local or general irritations, applied from without, or generated within the body, and in some instances are calculated to affect the functions only; in other they affect the vital actions of the parts in which they happen to be seated.
>
> To the class of sympathies that manifest themselves through the intervention of the organs of volition and instinct, belong all the decided effects produced on the voluntary agents of the body, which emanate from *consciousness*. There is this difference, however, between the purely voluntary, and instinctive sympathies: the first result from the circuitous process of imagination, reasoning, and association, and may be easily traced; while the latter, proceeding *not* from consciousness, but from the sensations excited by animal appetites. and innate propensities, cannot be always mentally traced. Their physical effects, moreover are *instantaneous*, *inevitable* and *perfect* from the first; while the former require time and practice to bring them to perfection. In other words, the instinctive sympathies operate independent of reason, even prior to its dawn; the voluntary associations are dependent upon this power.

The sympathies of *emotion* seem to influence primarily the whole nervous system, and subsequently the heart and circulation, and the secretory organs and other parts, which perform their functions independent of the will. This operation they apparently effect through the intervention of that communication which exists between the brain and the *great intercostal nerves*, in the course of the cerebro-spinal axis. Thus is explained the simultaneous events that proceed from anger, hope, fear, grief, joy, and the like, which are apparent at one and the same instant in the nervous and circulatory systems.

The sympathies arising from *sensation*, likewise, operate in many instances, on the sanguineous system, more especially those referable to the *morbid* class; while in others, they affect the muscles, and produce involuntary motions of the voluntary organs. Thus pain creates an increased action of the heart and arteries, and is soon accompanied by all the phenomena of fever: and the sensation produced by tickling the soles of the feet, induces spasmodic excitation of the muscles of respiration, and *laughter* is the result; which, if carried to excess, in an irritable temperament, might be succeeded by convulsions of a more serious nature.—These, and innumerable other examples, are common-place matter of fact, with which most persons are familiar: but with 'regard to the vinculum,' as Dr. Wilson aptly observes, in his philosophical and learned letters on the action of morbid sympathies, 'that connects the sympathising part with that where the irritation is applied, we remain totally in the dark.'—What we have in our power, then, is by careful observation to mark truly demonstrable facts, and the knowledge of these will lead us to more correct practice." 49.

Dr. Williams very probably deprecates the too prevalent rage for tracing diseases almost exclusively to *vascular* derangement. "No man," he remarks, "can be a sound pathologist, or a judicious practitioner, who devotes his attention to one of these systems (the vascular and nervous) in preference or to the exclusion of the other; through life they are perpetually acting, and inseparably linked together. The law of *morbid* sympathy, moreover, are often manifest to the senses; we have, therefore, every ground to infer, that they may be reasoned upon in diagnostics with the utmost propriety, and considered as steady principles for the guidance of our practice.

Darwin, the great father of the sympathetic doctrines of modern times, was said to be the most successful practitioner that England ever produced. There was scarcely a town on the Continent from whence he was not consulted, either personally or by letter; and we have it from good authority, that his success was mainly owing to the multiplied resources at his command, from the sympathetic views of disease he maintained."

With reference to the latter paragraph of this quotation, we beg to state our conviction (and we know something of Darwin's practice from having frequently conversed on the subject with more than one intelligent patient of his) that his success was attributable mainly—not as our author thinks to the "multiplied resources at his command, from the sympathetic views of disease maintained"—but to his good sense in never letting his fanciful, though ingenious theoretical views influence, in any considerable degree, his practice.

Adverting to the sympathetic influence exercised by the stomach over the heart, our author says:

> "My own experience supports the opinion of those who maintain that the symptoms of Angina Pectoris may be present, and frequently are present, without organic disease of the heart, but dependent upon morbid sympathy, arising from functional derangement of other organs, more especially the stomach.

The following case of the late Dr. Marsden, of this town, though not precisely proving the above position, is still an interesting one; for though the heart was diseased, I think the paroxysms were excited by sympathy, and in a great measure the consequence of occasional disorder of the stomach. He was irregular in his diet, which materially interrupted the healthy action of the digestive organs, and ultimately aggravated the sympathetic paroxysms."

"About twelve years ago, Dr. Marsden, then aged 56, and in good health ate at a friend's house, some suet dumplings—the suet of which was rancid, and disordered his stomach.

He suffered violent pain at the epigastrium. He pursued an abstemious diet, chiefly of fish, for many weeks, and gently affected the system with Mercury; during all which time he was engaged in extensive practice, and frequently exposed to cold. He was no better: the pain recurring at irregular intervals.

About two year after the first attack, he was riding a spirited horse, which started at some object; and the agitation of this accident suddenly brought on the pain in the epigastrium, which then, for the first time, mounted towards the throat, and descended along each arm. Ever since then, he was unable to mount a hill, or stair, without difficulty and pain; nor could he endure pressure on either arm—as when walking in company.

Gradually the violence of the pain diminished at the epigastrium, and ascended to the larynx, along the course of the recurrent nerves. He could not stoop, nor effect any evacuation, nor undergo any bodily exertion nor mental emotion, without a more or less severe attack of pain.

Thus the paroxysms continued to the time of his death; they *did not* impede respiration more than any other bodily pain:—they utterly prostrated his strength during the attack, and left much languor on their subsidence. There latterly appeared a tendency to recur about midnight; but any indiscretion in diet, of quality or quantity, was sure to accelerate, protract, and aggravate the attack.

He was seldom able to lie on his left side, without the recurrence of the pain: his bowels were costive, his flesh attenuated, his complexion bilious. His appetite, thirst, tongue, urine were natural. His pulse, about 60, small, easily compressible, intermittent, unless, when above 70, then regular. The intermission commenced after a dose of Elaterium, nine years ago. He never had any palpitation until a few days before death.

He was stethoscoped by Dr. Sims, seven years ago, but nothing abnormal could be detected in the heart, aorta, or lungs.

About five months before his death, I, on two occasions, observed a sound between bruit de soufflet and rape, apparently in the the mitral valves. The epigastrium presented a palpable fulness and hardness, giving the idea of pressing a piece of leather; the edge of the liver was distinctly palpable and very firm below the edge of the ribs. There was a slight fulness over the cæcum. Occasionally an odd sensation came on, which Dr. M. called the fidgets in his feet—apparently a tingling sensation—which rendered him extremely restless; was allayed by no application, and had no connexion with any observable cause.

Dr Marsden never had rheumatism nor gout; but his father and brother were gouty.

Autopsy. The whole body was greately emaciated: in the cavity of the left pleura were twelve ounces of bloody serum. In right ditto, sixteen ounces. There was no adhesion of the lungs; some emphysema at the edges, and considerable œdema of their substances. There was a cicatrix at the apex of each lung.

There was six or eight drachms of bloody serum in the cavity of the pericardium. Heart very flabby; its substance very easily lacerable. An adhesion of elongated fibres, one inch and a quarter long, and half an inch broad, along the junction of the ventricles, and a smaller one of the same kind, but with longer fibres, at the apex of the left ventricle—both of old-standing. A thin adhesion of the left auricle and pericardium. The left ventricle was dilated to twice its natural size, with walls of ordinary thickness. Left auricle of natural size and structure; mitral valves somewhat thickened—chordæ tendinæ decidedly hypertrophied. The heart a little hypertrophied (passively), in all its other dimensions. The aortic valves thickened at the base; the sesamoid bodies hardened and enlarged, and covered with several very small cauliflower and linear excrescences. The coronary arteries pervious, perfectly ossified as far as their subdivision. The ossific formation scratches the nail. Patches of artheromatous matter in the ascending aorta, and one large hard ossification upon the smaller and lower circumference of its arch, embracing about a third of the circumference of the vessel. A patch of artheroma at the origin of the mesenteric artery: a ring of ossification surrounding the organ of the splenic artery, which is giving off from the aorta above the cæliac axis; an extended artheromatous layer around the cæliac artery. From this point, the patches of ossification on the aorta increased to its bifurcation and were traced as far as the right external and internal iliacs. The internal membrane of the artery from the cæliac to the iliacs, was absorbed over the *edges* of the ossific patches, and, where not absorbed, was of a slate colour, the spleen was small and firm—its peritoneal coat thickened. The liver of natural size, firm, considerably congested, and the lobulus spigelii, particularly so. The pancreas abnormally soft. The right kindey marbled with several patches of disease, exhibiting deficient vascularity. On the surface of the left kidney, some urinary vesiculæ. In both kidneys, traces, of deposition of albuminous matter in the tubular portion.

The stomach was distinctly divided into the cardiac and pyloric portion, by a transverse constriction; its capacity considerable, the mucous membrane firm and undigested, and very much congested about the cardiac portion. The whole stomach was thick and firm, and on the lesser curvature was an old cicatrix. The mucous membrane of the duodenum was congested and firm; the mucous membrane of the cæcum excessively congested, so as to be quite *black*—the mucous membrane of the ileum presented much the same appearance; no other pathological appearances were observed. The head was not examined." 58.

The foregoing case, which is, in many respects, an interesting one, was drawn up by Mr. Greeves, a friend of Dr. Williams, and is regarded by the latter as "a compound case of organic disease and nervous sympathy: one wherein I should think it probable, that the disordered functions of the stomach first induced deranged action of the heart, and that this in turn degenerated into absolute organic disease, which was ever after under the dominion of the first cause. It is illustrative of the great importance of paying strict attention to diet, and of preserving in healthy action the digestive organs."

The extensive influence which a disordered state of the digestive apparatus in general, and of the stomach in particular, exercises over the whole frame, mental and corporeal, has long been, and will still continue to be, a subject of wonder and admiration to pathologists. This influence is undoubtedly reciprocal, but the sympathies which radiate *from* the gastric centre, are more powerful than those which are propagated *to it* from remote organs. The chief if not the only medium of these sympathies is the *intercostal or ganglionic system of nerves,* a system in close connexion with, but not solely dependent on the brain, co-operating but having a separate existence. Its centre is the semi-lunar ganglion and solar plexus, which are in close proximity with the stomach, and liberally supply it with nerves; and hence, in all probability, the reason why a severe blow over the stomach proves so often suddenly fatal.

> "The *par vagum*, *phrenic*, *glosso-pharyngeal*, and *spinal accessary* nerves, appear to be all appropriated solely to supply the power of performing the respective functions of the individual parts on which they are ramified; and their frequent junction with the sympathetics, is only an evidence of the great necessity there is of preserving a perfect accordance among the organs, structures, and viscera essential to animal life." 62.

After these general remarks on sympathy, which in the work before us occupy the space of 21 pages, we come to that section which treats of "Nervous and Sympathetic Palpitation of the Heart," a subject certainly of considerable interest. The following passage from the posthumous writings of Dr. Baillie, and which is quoted by the author in his "Preliminary Observations," contains such an important, and often necessary caution, that we cannot refrain from transcribing it.

> "There are in truth few phenomena, which puzzle, perplex, and lead into error the inexperienced (and sometimes the experienced) practitioner, so much as inordinate action of the heart. He sees, or thinks he sees, some terrible cause for this tumult in the central organ of the circulation, and frames his portentous diagnosis and prognosis accordingly. In the pride of his penetration he renders miserable for a time the friends—and by his direful countenance damps the spirits of his patient. But ultimate recovery not seldom *disappoints* his fears, and the Physician is *mortified* at his own success."

Palpitation is defined by our author as a temporary augmentation of frequency in the action of the heart (with or without irregularity), the pulsations of the organ being at the same time perceptible to the individual. *Nervous* palpitation presents itself in two distict forms, *active* and *passive*. The first occurs when the system is in a state of *plethora;* the second, when in a state of *exhaustion*. Of the plethoric form the following instance is given.

> "A stout, ruddy-faced, plethoric country girl consulted me not very long since, in consequence of the extreme inconvenience she experienced from the over-action of her heart. It beat full and strong against her ribs, and with sufficient force sensibly to raise my hand at each stroke, when the stethoscope was applied over the præcordial region, though this is not usually the case. To this constant state of inordinate action were added occasional attacks of palpitation, so tumultuous as scarcely to admit of analysis. On enquiry, I found the uterus had not performed its accustomed healthy function for several periods; and in consequence, she had become feverish and irritable; the heart, in turn, had sympathised with the general derangement of the system, but she complained only of the palpitation.
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> I was quite satisfied of the sympathetic nature of the affection, and by ordering great quietude, low diet, blood-letting from the arm in the first instance, and then over the loins and above the pubes, by means of cupping and the application of leeches, with the exhibition of active purgatives, I soon restored her to health."

The case above related, might at first sight be mistaken for one of hypertrophy of heart; but in this disease, the impulse of the heart is hard, circumscribed, and heavy; it raises the head of the observer at each stroke. The sound, instead of being clear, is obscure, and as it were muffled. A careful examination with the stethoscope will generally detect some irregularity in the contractions of the various chambers of the heart, either in respect to order or force. Percussion over the præcordial region, in advanced cases produces a dull sound, which is not met with when the dimensions of the organ are natural. In hypertrophy, when the palpitations are, pro tempore, suspended, the beat of the heart still remains hard and more circumscribed than it ought to be, and indeed the movements of the heart are not always of a nature to merit the name of palpitation; they are not necessarily more rapid than in health—the patient does not always perceive them himself—and when he does, although they may in reality be much more forcible than natural he seldom complains of the sensation being a source of distress unless when the capacity of the chest is diminished by pressure, position, or otherwise. He attaches no undue importance to his symptoms, he evinces no unnecessary alarm respecting them, and even in the advanced stages of the complaint, seems insensible to his danger.

Passive palpitation of the heart is more frequent and obstinate than the active or plethoric form. It is produced by a transient suspension of the contractions of the heart, followed by a forced effort to recover its equilibrium of action. The palpitations, though sensibly felt by the patient, are scarcely perceptible on examination. The impluse of the heart is not increased; sometimes it is even weaken than natural, a fact noticed by Bertin. Though this form of palpitation is attended with no immediate danger, yet we are assured by Foderé, that those who have been so affected from youth upwards, commonly die before the usual term of human existence. In slight cases of passive palpitation, the action of the heart is compared by the patient to the flutter of a bird: sometimes it consists of a momentary feeling of a rolling or tumbling motion of the heart, accompanied by an intermission of the pulse, of which the patient himself is often conscious. This perceptibility on the part of the patient is thought by Dr. Joseph Brown to be *pathognomic* of nervous or sympathetic intermission of the pulse, and has been noticed by Dr. Jas. Johnson, and other authors. The pulse is irregular when the action of the heart itself is irregular; but frequently there is no irregularity of action, the affection consisting merely of a pulsation more or less strong, which the patient feels, or hears perhaps, and can count distinctly, especially when lying in bed. The palpitations recur after irregular intervals, and are uncertain in their period of continuance. The breathing during a paroxysm is slightly hurried, with a sense of anxiety and a feeling of apprehension, on the part of the patient, greater than the real danger justifies. The sounds of the heart are soft and clear, and loud when compared with the impulse. The pulse is sharp and jerking, never full and strong. There are besides neither symptoms of determination to the head, nor of impeded general circulation, such as lividity of countenance, dropsical effusions, &c. The absence of these, and certain other symptoms, sufficiently distinguishes the affection from organic disease of the heart. The diagnosis may be assisted by taking into consideration the temperament as well as the age of the patient. In hysterical and hypochondriacal, patients, nervous palpitations are very common: they occur also frequently in the young and sanguine, between the age of 15 and 25 years. Organic disease, on the other hand, is rarely seen until the prime of life is past. As a further ground of distinction Dr. Williams asserts, that while anti-spasmodics and stimulants afford relief in nervous palpitation, they greatly aggravate the patient's sufferings when there is organic disease. The statement is anything but correct. We have scarcely ever met with an instance of organic disease of the heart, in which the patient's sufferings were not temporarily relieved by stimulants. The propriety of administering them frequently in such disease, is altogether another question, and one on the consideration of which we cannot at present enter. We may state however our conviction, that in many cases of organic disease they may be employed with positive and very marked advantage.

"Certain complications of disordered function usually connected with the palpitation which accompanies absolute disease of the heart, may, from accidental circumstances, co-exist with nervous irregularity of the actions of this organ. Of these may be mentioned the intermittent "bruit de soufflet," or bellows-sound, and the sawing murmur; both of which are to be attributed to the morbid velocity with which the blood is propelled by the sudden, and as it were, spasmodic contraction of the cavities of the heart. The murmur, according to Dr. Hope, occurs whenever the movements of the organ are accelerated, and in some instances the slightest causes produce that effect; as, a momentary emotion, a constrained position, or a change of posture from the recumbent position to the erect; a full meal, flatus on the stomach, &c. Some of these, by altering the position of the heart, may offer a trifling impediment to the free exit of blood, and thus perhaps contribute to produce the phenomenon in question.'

Laennec states, that the bellows-sound and purring may often be detected in the course of the larger arteries, and Dr. Williams' own observation leads him to concur in the remark. Pricking pain, felt over the præcordial region, is another frequent sign of nervous derangement of function. Dr. Elliotson has noticed this symptom.

"Another peculiarity of nervous palpitation that occasionally presents itself is the perception of a double movement in the heart. When lying on his left side, the patient in such cases describes the pulsations of the organ as double those of the pulse felt in any of the arteries. This arises from his morbid state of irritability, rendering the contraction of the auricles also apparent to his senses. From Sir Benjamin Brodie's and Dr. Hope's experiments, there is reason to believe, that the contraction of the auricles can in no instance be strong enough to admit of detection, unless when the heart can be seen or touched. A certain degree of oppression and dyspnœa usually accompanies this variety of palpitation, and may vary from a mere feeling of anxiety, with accelerated respiration, to perfect orthopnœa. This double movement is, however, sometimes dependent on a species of intermission, and in certain cases of diseased heart, is productive of curious results. Every second pulsation may be so feeble, as to be almost imperceptible. In the former case, the pulse appears to be quite regular and slow; but while in the act of feeling it, the intermediate or latent pulsation becomes suddenly distinct, and the pulse appears to be instantly doubled. A case of this description is recorded by Dr. Forbes, wherein the same patient had a regular pulse at fifty or sixty, and a regular one at one hundred, and one hundred and twenty, within the space of three minutes.

Dr. James Johnson was, however, I believe, the first who really pointed out this species of intermission several years ago, in the case of a gentleman residing in London, under the care of Mr. Cosgreave. In this instance, he informs us, 'that the ventricular actions were usually double those of the tangible arteries. Bnt when any feverish excitement took place, the pulse became double the number, or more, at the wrist, and corresponded exactly with the pulsations of the heart against the ribs.' " 83.

With a view to illustrate more clearly the diagnosis of nervous palpitation, and thus to establish on a sure basis the principles of treatment, six cases of the affection are related, in addition to the one which we have already transcribed. The first two were cases of hysterical palpitation, and were both cured by means of aperient and tonic medicine, aided by judicious general treatment. The third case was that of a gentleman, not quite 40 years of age, who had been unsuccessful in business, and had become, in consequence, low and desponding. His digestive organs were much deranged, and he laboured under a continued, obscure masked fever. He complained occasionally of paroxysms of palpitation, which were accompanied with dyspnœa, insomnolency, and a distressing feeling of anxiety in the præcordial region. In this state he remained several months. He was then affected with hæmoptysis; and symptoms of subacute pericarditis supervened. On the cessation of the hæmoptysis, he was harassed with a troublesome cough, attended with copious expectoration of a somewhat purulent character. During the existence of these latter symptoms, he was several times affected with fits of syncope, which occurred without any evident cause. His father was reported to have died of diseased heart. He himself had been affected with epilepsy in his youth, and at thirteen years of age had suffered from St. Vitus's dance. He was at first purged with calomel and colocynth, properly dieted, and subjected to a course of anti-spasmodic and digitalis. On the supervention of the inflammatory symptoms, he was largely leeched and blistered. He continued also to take the digitalis, and was put upon a gentle mercurial course. In about a month the inflammatory symptoms yielded but the palpitation continued. He *again* (we find no previous notice of these remedies) had recourse to bitter and mineral tonics, and ultimately recovered. On this case we are presented with the following observations.

> "The history of the case declares its character to have been at first a nervous spasmodic palpitation, symptomatic of the enervated condition of the whole system, on which supervened subacute pericarditis; and the treatment was in accordance with this view of the disease. The condition of the primæ viæ, and his state of mental depression, although primarily induced by misfortune, yet in a great measure kept up and aggravated by the derangement of the alimentary canal, claimed first attention." 90.
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> "Palpitation," continues our author, "is found more frequently connected with dyspepsia, and derangement of the first passages generally, than with any other disorder. I have known nervous and excitable individuals experience the most severe paroxysms in consequence of having eating too freely, either of general food, or of any article of diet, which, from pecularity of constitution, was difficult of digestion. In some of these cases, indeed, the distress will continue long after the offending cause is removed, and occasionally assumes a degree of obstinacy unaccountable and almost incredible. When dependent on chronic, or intractable disease of the primæ viæ, the severity of form it may assume is quite astonishing." 92.

We quite agree with Dr. Williams in attributing to a dssordered state of the digestive organs, so much influence in the production of symptomatic palpitation of the heart. We feel assured that a judicious and *persevering* use of purgatives, in cases such as that just related, does more to restore health than any other plan of treatment whatsoever.

Among the sources of irritation to which the intestinal canal is exposed, there is none to which abnormal action of the heart is a more frequent and obstinate attendant than vermination, particularly when the parasite is a tape-worm. This remark is well illustrated by Dr. William's fifth case. The patient, a young lady, 22 years of age, was relieved from most distressing paroxysms of palpitation by oil of turpentine and other active purgatives, under the operation of which she voided, in the space of fourteen months, many yards of tape-worm.

> "But of all the organs in the body, in whose functional irregularities the heart is prone to participate, the uterus stands, perhaps, the most prominent. Dysmenorrhœa, or total suppression of the menstrual discharge, is very frequently attended by palpitations. In the stout plethoric girl the affection is usually of the active kind, and may be attended with many other symptoms indicative of the full habit thus induced—The following case will serve very well to illustrate the nature and ordinary phenomena of such an attack:—
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> Case 6. During menstruation, a stout plethoric girl had some cold water spilled accidently over her legs and feet. The secretion ceased in a few hours afterwards, and did not return for several periods. In the mean time she became affected with pain in the loins and thighs, headach and giddiness, and general febrile irritation. She was attacked with hysteric epilepsy; the heart sympathised; she had palpitation and other symptoms of constitutional disturbance. On listening to the action of the heart, it did not beat over a greater extent than natural, and there was no dull sound on striking over the præcordial region, more than usual. There was no preternatural sound accompanying the contraction of the cavities, and the increased action, constituting the palpitation, was universal. In this case there was, of course, no organic disease of the heart, and the administration of such remedies as relieved the congested system, generally and locally, and restored the menstrual discharge, dismissed the girl's palpitation, and induced health." 98.

In chlorotic females, the affection assumes the *passive* character; but the quick irritable pulse, &c. may mislead the routine practitioner, diverting his attention from the real and primitive seat of the disorder, the *uterine system*, and directing it to the affection of the heart, which is merely sympathetic. This is Dr. William's statement, and view of the case. Our own impression is, that the affection of the uterus is as much a symptom, as that of the heart itself. Chlorosis is a disease of the whole system, affecting, in a greater or less degree, every organ, and indeed the circulating fluid itself. It is high time that those partial notions of disease, which attributes such a potent and mysterious influence to the uterus, should give way to more comprehensive views, and sounder pathological principles.

On the cessation of the menses there is produced in some females troublesome and obstinate palpitation, which may be either of the active or the passive kind. This distinction must be duly attended to in instituting a plan of treatment, as the remedies which cure the one form, never fail to aggravate the other.

Dr. Williams alludes to the alleged inflence of *spinal irritation* in producing paroxysms of palpitation; but it is not very clear what his own opinions on the subject are. "I have witnessed," says he, "cases of this kind, but not frequently; and I am satisfied it may materially influence existing disorder of the heart's functions, emanating from other sources. I am not prepared to allow, that the power which the ganglionic system of nerves possesses, primarily and wholly proceeds from the brain, though intimately connected with, and in some measure dependent upon the cerebral system; and as the nerves of *sensation* that run directly from the spinal chord to the central organ of circulation, are comparatively few in number, I apprehend, that when diseased, either at their origin, in their course, or ultimate ramification, they are more likely to produce painful sensations than derangement of functions; admitting, still, that ultimately both disordered function and diseased structures may be induced, for impaired energy of any part of the nervous system must materially influence an organ dependent upon it for health and energy. I have been enabled to trace palpitations to spinal irritation, but I think the phenomena were induced through the intervention of the cervical ganglionic nerves."

The first sentence of the foregoing quotation is very clumsily arranged; and the whole paragraph is a good specimen of what may be called, "writing on both sides of the question." Our own opinion on the subject is very decided. Of all the theories which a warm fancy, brooding over a number of one-eyed observations, has ever hatched and nurtured, we know not one, which, for the periods of its existence, has been productive of so much mischief, as the fashionable doctrine of "spinal irritation." Give us one of the healthiest and most ruddy-faced of country girls, and we will undertake, in a very few weeks, to make her back exquisitely sensitive, and her general nervous system in the highest degree irritable, by leeching and cupping her in strict compliance with the most improved principles laid down by the advocates of "spinal irritation."

Rheumatic pericarditis is briefly, and very imperfectly alluded to as a cause of palpitation. No notice is taken of one of its consequences, which, when it exists, is a permament cause of disordered action of the heart—we mean adhesion of the pericardium.

Palpitation is often produced by manustupration. Dr. Williams details the accompaying symptoms occasioned by this most baneful habit, but we do not feel ourselves called upon to do more than merely allude to the subject. The following remark however, which are of more general application, we deem it our duty to transcribe, inasmuch as while treating of the diagnosis of *functional* palpitation, we did not, perhaps, dwell sufficiently on the physical signs.

> "When derangement of the heart's action is strictly functional in its nature, and dependent on the sympathetic consent between it and disease seated primarily in some distant part, our diagnosis will be materially aided by attending to the following particulars:—We must ascertain by the hand, ear, and Stethoscope, whether the abnormal action of the organ be universal or not, over the whole extent of the præcordial region. If it be found on both sides of the heart, and not on one part more than another, it leads to the conclusion that the palpitation is merely a functional disturbance; but this does not constitute positive proof. We must examine, at the same time, by striking over the region of the heart, either by the fingers, or through the medium of the Pleximeter, whether the dull sound peculiar to this region be not of greater extent than natural. This induces the conclusion that there is no dilatation, nor effusion into the pericardium
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> It was correctly remarked by Dr. Elliotson, in his Lectures: 'If at the same time that we observe the action to be violent, and yet the sound on Percussion not to be more extensive than usual; and in addition to this circumstance, we find the sound of the heart perfectly normal—no bellows-sound, no rasping, no sawing sound, merely perhaps a rather louder sound than usual—nothing more than that—then we have every reason to conclude, that there is no organic disease of the heart.'" 110.

The work concludes with a chapter on the treatment of palpitation; but it is little else than a *resumé* of the curative remarks scattered throughout the body of the work, and of which we have already noticed, in general terms, all the most important. We shall here therefore only add, that in the *plethoric* or *plethoro-nervous* form of palpitation, our author very properly recommends an efficient, though cautious abstraction of blood, both from the general system, and from the præcordial region. When the plethora is dependent upon suppression of the catamenial discharge, cupping-glasses applied to the sacrum, and leeches to the inside of the thighs or feet, are likely to prove beneficial.

We have already, at the commencement of our critique, stated our opinion of the design and plan of the work before us. We shall now make a few general observations on the manner of its execution.

Its most obvious and important defect is the want of a judicious and clear arrangement. The functional and organic disease of the heart, their symptoms and treatment, the physical and general signs, are all jumbled together in strange confusion; while topics, half-discussed, are abandoned for others, and then resumed, in such a way as necessarily to produce frequent repetition. Thus the style is rendered loose and rambling, and the mind of the reader (unless he is previously well acquainted with the subjects treated) can scarcely form any definite notion of the principles, whether of diagnosis or treatment, which it is the author's main purpose to inculcate. We think too that many of the quotations might have been omitted, being either of little importance, or extracted from books which are in every body's hands. But with all these grounds for animadversion, the work contains many excellent practical precepts; and it is impossible to read it carefully, and not be convinced that Dr. Williams is a well-informed and discriminating physician.

PATHOLOGICAL ANATOMY.

I. ILLUSTRATIONS OF THE ELEMENTARY FORMS OF DISEASE. By *Robert Carswell*, M.D. &c. &c. &c. Fasciculus Twelfth: INFLAMMATION.

II. LECTURES ON THE MORBID ANATOMY OF THE SEROUS AND MUCOUS MEMBRANES. In two vols. By *Thomas Hodkin*, M.D &c. &c. &c. Vol. I. ON THE SEROUS MEMBRANES, &c.

I.—INFLAMMATION.

THE Fasciculus before us concludes the Pathological Illustrations of Dr. Carswell. In a notice we are informed by that gentleman:

> "As originally announced, I have comprehended the Illustration of the Elementary Forms of Disease in twelve fasciculi. There are, however, some subjects, interesting in themselves, and well adapted for illustration by means of coloured representations, viz. Calculi, Entozoa, and Monstrosities. These I propose to publish when a second edition of the work shall be required. They will form an appendix, and, along with any additions or alterations that may

be made in the letter press of the second edition, may be obtained by subscribers and others in possession of the first. I may observe that the order in which the fasciculi have been published is the reverse of that in which they should be arranged when bound. It was unavoidably adapted, and may be easily remedied on referring to the Table of Contents, which, for the reason assigned, must also serve as an index to the separate subjects."

This we think a judicious plan, and we trust that, at no distant period, the call for a second edition of the work will bring before the public farther illustrations from the graphic pencil, and not unpractised pen of Dr. Carswell.

In the observations on Inflammation with which we are now favoured, our author treats successively of the Nature of Inflammation—of the Physical Characters of Inflammation, consisting in modifications of the natural colour and vascularity, the consistence, and bulk of parts—of the Diagnostic Characters of Inflammation—and, finally, of General Considerations on the Fluid Products of Inflammation.

It would be idle to insist on the necessity for an accurate acquaintance with the phenomena, the consequences, and the laws of inflammation. Dr. Carswell more particularly confines himself to be examination of the phenomena, and especially of those by means of which its existence may be determined after death.

1. *Nature of Inflammation.*

Our readers need not be told how many experiments have been performed, how many hypotheses have been framed, for the purpose of explaining the nature, or, as it is termed, the proximate cause of inflammation. Those experiments and theories have certainly not dispelled the obscurity that they were intended to remove, and there are few ponts on which the professional mind is less settled than on this particular subject.

Two leading hypotheses have for some time been before the public, and have numbered their several and eager supporters. The one hypothesis regards inflammation as essentially consisting in increased action of the capillaries—the other views it as depending on diminished action or debility. The same experiments have been appealed to by the advocates of opinions so opposite to one another, and although the party which deems inflammation to be debility of the capillaries is undoubtedly the predominating one, its opponent can adduce many plausible arguments, and can appeal to some staggering facts. Dr. Carswell steers a middle course, and endeavours to form a composite hypothesis out of the two that we have mentioned. His views cannot well be given more concisely, consistently with clearness, than he has given them himself. We shall therefore quote his words.

"I shall consider inflammation," he says, "as a disease the essential phenomena of which present themselves in two successive stages or periods, each of which is referable to opposite conditions of the physiological properties or functions of the affected part. Although these opposite conditions are sufficiently characterised by the changes which take place in the temperature of the inflamed part, and in the functions of circulation, secretion, and absorption, they are more especially so in those which occur in the sensibility and contractility. The changes induced in these two vital properties are, as I have already stated the first that are observed in inflammation from the influence of stimuli, such as mechanical irritants. The first effect of mechanical irritation is an increase of the sensibility, soon amounting to pain, even in those tissues which, under ordinary circumstances, possess this property in a very low degree; and subsequently, or at the same moment, contraction, or an increased development of the contractile property, if not of the capillaries, of the arteries with which they immediately communicate. After a certain time, varying with the violence of the exciting cause, the sensibility diminishes or ceases to be manifested, for pain is no longer the consequence of the same cause. The contractility undergoes a similiar change; the minute arteries cease to contract when stimulated, and they, as well as the capillaries and minute veins, are permanently dilated and distended with blood. That these two opposite states of the sensibility and contractility exist in inflammation, and occur in the order in which I have stated, might, independently of the evidence of the facts themselves, have been believed and understood; for they are but an exaggeration of the law of vital action, or of the physiological conditions of all parts endowed with these properties, a state of activity and repose, of increase and diminution, being the opposite and invariable consecutive conditions of both. It is hardly necessary to observe that these properties, both pathologically and physiologically considered, admit of these opposite conditions in so far only as the exciting cause acts in the strict sense of a stimulus; for if the agent to the influence of which they are subjected is of a such a kind as to destroy, or, as is commonly said, to exhaust, instead of an increase there is at once produced a diminution, cessation, or extinction of both, and, consequently, of their visible signs. Such a state cannot, therefore, be regarded as a state of inflammation; for the first, or active, conditions of the disease have not existed. It is, however, a state which is frequently produced in experiments made to ascertain the effects of stimuli on the capillary circulation in inflammation, and then becomes an interesting illustration of the fact just stated; for although congestion takes place in the part thus debilitated, it is soon followed by the active phenomena of inflammation, or those which characterize its stage, and a more rapid and extensive formation than usual of those of the second.

Next in succession and importance to these opposite states of the sensibility and contractility, are the changes which take place in the hydraulic conditions of the blood. In the first stage of inflammation, the circulation is accelerated, and a greater quantity of blood than natural passes into the capillaries; in the second stage, the circulation becomes impeded, and the blood which distends the capillaries ceases at last to circulate. That these changes in the circulation of the blood are the consequences of the difference in capacity of the capillaries in the first and second stages of inflammation cannot be satisfactorily ascertained; but what is of greater importance is the relation which exists between them and the primary lesions of the sensibility and contractility, as they correspond to the two opposite states of these properties, viz. an increased and diminished circulation, which implies opposite states of the agents which effect or regulate the transmission of the blood in the capillary vessels. There can be no doubt that other causes than these modify the circulation of the blood in the capillaries, in inflammation, independently of any increase or diminution of the propelling power. The diminished capacity of the smaller arteries in the first stage of the disease, and the dilatation which they present in the second, certainly offer, on hydraulic principles, a rational explanation of the increased and retarded circulation of the blood in each stage respectively. And increased vital affinity between the blood and the capillaries has also been supposed as a probable cause of accelerated circulation, and the subsequent accumulation of the blood, such as is observed to take place in erectile tissues during the state of turgescence; and changes in the blood itself, more especially its coagulation, which, in the second stage, must mechanically impede the circulation, and increase in degree and extent the local congestion. All these modifying causes of the capillary circulation must, however, be regarded as secondary in importance to those to the agency of which I have already ascribed the two essential changes which occur in it in the first and second stages of inflammation."

This is very well, but candour must admit that it leaves the difficulties nearly where it found them. It is difficult to reconcile the phenomena of active inflammation with the notion of debility, and impeded circulation in the capillary vessels. That has always constituted the *rational* difficulty. Every thing seems to shew that the circulation is more rapid—the artery leading to the inflamed part, say a finger, is felt to pulsate strongly, the colour of the inflamed is heightened and brightened—its temperature is heightened too—and surely all these circumstances ill-accord, or seem to ill-accord, with dilated capillaries *and* obstructed circulation in them. In the atonic form of inflammation, the theory is more at home, but the very fact of there being two forms of inflammation displaying such essential differences in their phenomena, is itself an apparent objection to any theory purporting to be an exclusive one. These difficulties, such as they are, serious or slight, are neither aggravated, nor, as it seems to us, much mitigated by Dr. Carswell's views. But we leave them without further comment to the consideration of our readers.

Dr. Carswell proceeds to observe that, during the first stage of inflammation, the vital properties of the blood undergo a manifest increase. A greater quantity of fibrine is formed, the plastic property of which is increased; for, besides its rapid organisation under favourable circumstances, it retains, when separated from the other constituents of the blood, its fluidity for a longer period, and contracts more firmly, than in the natural state. The unwonted vigour of the circulation in general, the increased temperature of the whole body, and the resistance opposed to the means employed in inflammation to weaken the vital powers, may also be regarded as connected with this state of the blood, or as inordinate effects of its vital agency through the medium of the nervous system. In this stage, too, the temperature is variously and greatly increased; the function of secretion is also for a time augmented; in glandular organs, however, only at the commencement; in serous tissues for a much longer period, and to a much greater degree. Absorption, if not increased, manifests its activity by the speedy effects of poisons locally employed in this stage.

During the second stage of inflammation, changes the reverse of those, just described occur in rapid succession. The blood ceases to circulate coagulates, and assumes a dark colour; the temperature sinks, and secretion, absorption, and nutrition are finally interrupted. If those conditions of the affected part are maintained for a certain time, new products are formed, or other diseased states are produced, as softening, suppuration, ulceration, and mortification, which are therefore denominated *terminations* of inflammation, and constitute separate subjects of investigation.

It appears to us that there is some confusion in Dr. Carswell's theory, or rather in this rider to it, for the theory itself we abstain from re-entering on. If we remember rightly, the advocates of the doctrine of debility appeal to experiments which prove, if they prove any thing, that such debility is a very *early* phenomenon. It could hardly indeed be otherwise, or it would not prove their case—that *it* is the proximate cause of inflammation. Dr. Carswell's remarks in the passage we have just borrowed, refer to quite an ulterior set of circumstances—the phenomena immediately preceding suppuration, or mortification. They do not then meet the question at issue, or obviate the difficulties which microscopic observations seem to oppose to analogy and reasoning. So, at least, it seems to us.

It seems to us, too, that to place suppuration and mortification in the same category, and to say that both ensue, when "the blood ceases to circulate, coagulates, and assumes a dark colour"—when "the temperature sinks, and *secretion*, *absorption*, and *nutrition* are finally interrupted," is to affirm what it would be difficult to prove, and what by no means gives us more definite ideas upon these subjects. But we waive the examination of these hypothetical points.

Dr. Carswell explains the signification of the terms adhesive, acute, gouty, syphilitic inflammation, and so forth—terms of practical consequence as representing modifications of the inflammatory phenomena, but, of course, not implying specific differences in the very essence of the inflammatory action itself. *That* is always the same.

2. *Physical Characters of Inflammation.*

Dr. Carswell examines those physical or anatomical characters of inflammation, which are peculiar to itself excluding those of a physiological character, as well as those derived from the presence of coagulable lymph, pus, ulceration, and mortification. The physical characters in question consist in modifications in the natural colour and vascularity, in the consistence and bulk of the inflamed part.

Redness and Vascularity. These in an abnormal amount constitute the most conspicuous of the physical characters of inflammation.

> "They vary much in degree, and are not equally present in all tissues. They occur also under several forms, which, as they indicate differences in the seat, mode of extension, stage or degree of inflammation, merit the special attention of the pathologist. They may be considered as constituting what may be called the *primary* and *secondary* forms of inflammation. The *primary forms* are as follows:—the *ramiform*, *capilliform*, *uniform*, *punctiform*, and *maculiform*. The first and second of these, as the terms imply, have their seat in the small arteries and veins, and in the capillaries respectively; the third and fourth are produced by capillary injection, the uniform red colour which accompanies the former being the consequence of an accumulation of blood in the entire capillary system of a part; the minute dotted or punctiform redness of the latter arising in the peculiar structure of the part, as in the villosites of mucous membranes, when the seat of inflammation, apart from the mucous tissue itself. The maculiform has also its seat in the capillary vessels, is sometimes produced by the accumulation of blood being greater in some points than others, but much more frequently by rapture of these vessels and extravasation, and hence may be called the *hæmorrhagic* form of inflammation. Exclusive of the influence of various modifying causes, but more especially of the quantity and quality of the blood, the several degrees of inflammation are expressed by each of these forms in the order in which they are enumerated, the ramiform indicating the least, the maculiform the greatest degree."

The following observations of Dr. Carswell's are general, and worthy of attention. Uniform redness, he writes, is best seen in dense vascular tissues, such as the skin, where it always occurs as the first physical sign of inflammation. Vascularity, on the contrary, is seldom conspicuous; and hence, when describing cutaneous eruptions, as the exanthemata, we employ the term redness rather than that of vascularity, to indicate the kind and degree of the inflammation which these eruptions present. Uniform redness is also observed in inflamed mucous membranes. but it is always preceded by the capilliform or punctiform injection. In these membranes also, the ramiform is remarkably conspicuous, and the maculiform or hæmorrhagic more frequent than in any other tissue. All these forms indeed, varying in degree, are met with combined in the mucous membranes, more especially of the digestive organs, the capilliform and punctiform being the first that appear, and the most characteristic of inflammation. In parenchymatous organs inflammatory redness is strongly marked; but from the complex structure of these organs, and the great quantity of blood with which they become impregnated during life or after death from a variety of causes, it is often extremely difficult to ascertain how far the redness depends on this circumstance or on capillary injection. In organs naturally of a pale colour, as the brain and nerves, lymphaitc glands, testes, mammæ, &c., redness and the causes of it are sufficiently obvious. It depends on the uniform capillary injection of the first or second stage of inflammation, and is succeeded by the punctiform and hæmorrhagic, which indicate a progressive increase in the disease. In all the serous membranes uniform redness is produced in the same manner, the capilliform and punctiform injection appearing first, and giving rise, as the inflammation proceeds, to the formation of striæ or maculæ, which are distinguished from the former by their darker red colour. The ramiform injection never occurs in these membranes, this appearance, when it accompanies the other physical characters of inflammation, having its seat in the subjacent cellular tissue.

It has always appeared to Dr. Carswell, that even the capilliform injection of these membranes is in great measure produced by the penetration of the blood into their softened substance by the vis à tergo. He has never been able to discover blood-vessels in the arachnoid, in inflammation of the pia mater, except where it lies in contact with this membrane.

Dr. Carswell gives an useful hint or two. 1. The red colour which membranous tissues frequetly present may be owing to the blood accumulated in the subjacent cellular tissue. 2. The amount of redness in tissues should be determined at once when they are exposed to the air. Under its influence the colour soon heightens, and becomes altogether fallacious.

" *The secondary forms* which inflammatory redness presents constitute an important feature among the other physical characters of inflammation, more especially in the cutaneous and mucous tissues. In the former they constitute the distinctive local characters of the exanthemata, and mark peculiarities in several of the papular, tubercular, vesicular, pustular, and scaly eruptions; in the latter they serve to distinguish the circumscribed and diffuse inflammations to which these membranes are subject, as well as the anatomical element in which they are seated, as the villous, mucous, and follicular structures. Thus in erythema, the most simple of the acute cutaneous affections, the secondary forms of redness occur in diffuse continuous patches of various extent, of a round, oval, or irregular form. The varietes which it presents are derived from the external appearances of the patches,—appearances which are produced by the degree of congestion of particular points, or of the whole of the inflamed portion of the cutis. When, for example, the redness is uniform, as in intertrigo, or when heat or a blister has been applied to the skin for a certain time, we have what is called erythema simplex. But when the cutis forms projections of various sizes, rendering the surface of the patches unequal or swollen, we have produced the varietes of this affections called erythema papulatum, tuberculatum, nodosum, &c."

It is not necessary to follow Dr. Carswell through his brief descriptions of the characteristic redness of erysipelas, measles, scarlatina, and so forth. They are necessarily too trivial to convey definite instruction.

The secondary forms of redness in inflamed mucous membranes are important from their indicating the precise seat of the inflammation. In the villous mucous membranes, as the digestive, the redness, at first punctiform and afterwards uniform, occurs in circumscribed patches; in the follicles it takes the form of these bodies, or when confined to their orifices, their basis, or both, appearing in dots, rings, or stellæ,—forms of inflammatory redness which distinguish it from every other. In the non-villous mucous membranes, or when confined to the mucous tissue, the redness occurs in diffuse patches which have no definite form.

Various shades of purple, brown, and black accompany, as is well known, the chronic or asthenic states of inflammation. They take place when the circulation has been long retarded, or when it has ceased in the capillaries, and especially when the inflammation has not terminated in suppuration or in effusion of coagulable lymph.

> "When the circulation has only been retarded, the colour is brown or perhaps only of a high venous tint; and where there has been complete stagnation of the blood, the colour is black. The first degree of discolouration is seen in chronic inflammation of the eye, of the mucous membrane of the air-passages, and of the intestinal canal. In the eye it has almost always a ramiform aspect; in the intestinal canal it is more frequently punctiform, more particularly when seated in the villosities, producing a grey or slate colour, called by French pathologists *couleur ardoisée*. Sometimes, also, it occupies the orifices of the follicles, and appears in grey or dark-blue points; or having its seat in the mouths or basis of these bodies, in little rings or circles. In the mucous membrane of the air-passages it is much less common than in that of the stomach and intestines, is more uniform and much less marked; and in the mucous membrane of the urinary and generative organs it is often great in degree and considerable in extent. It is not frequently met with in serous membranes unless when complicated with other diseases; and in parenchymatous organs it is most conspicuous in the lungs, in which it exists alone or accompanies other diseases, as chronic hepatization and tubercles. It is important, however, to remember that similar discolourations are met with in tissues without being preceded by chronic inflammation, and which I have described under the head of Spurious Melanosis."

Diminution of Consistence or Cohesion.—This softening is a familiar consequence of inflammatory action. Commencing in the first stage, it may proceed to an extreme degree in the second. It seems chiefly to affect the cellular element of tissues or of organs.

In parenchymatous or spongy organs, and in all the tissues the structure of which favours the retention of the effused fluids, a state of solidification, called *hepatization* in the lungs, is produced; but although they then feel harder than natural when compressed, the diminution of cohesion which has taken place between their anatomical elements is rendered conspicuous by the facility with which they are penetrated, broken down, or crushed.

Induration.—It often accompanies chronic inflammation, and consists in an increased cohesion of the anatomical elements of the part affected. It is the result of the organization of the coagulable lymph, and is always attended with an increase of thickness or bulk, by the grey discolouration of chronic inflammation, and by a greater or less degree of opacity of all membranous tissues.

Increase of bulk always accompanies acute inflammation, in consequence of the greater afflux of fluids, sanguineous and serous, to the part, and of the effusion of coagulable lymph. Its effects may be highly important, from its obstructing apertures, and so forth.

3. *Diagnostic Characters of inflammation.*

It is, of course, a great object, and often it is highly difficult, to distinguish inflammatory redness from that of other local accumulations of blood, produced during life or after death. A *mechanical imbibition* may occasion such local accumulations.

First, with respect to *local congestion, from a mechanical obstacle*, it is chiefly, if not exclusively, in mucous membranes, that a difficulty arises in distinguishing it from inflammation; and this difficulty is not felt unless the redness is general, and presents the ramiform character. Dr. Carswell points out very clearly the best mode of determining the question. Doubt, he observes, is removed by an examination of the neighbouring veins, which, in mechanical congestion, will be found dilated, tortuous, or even varicose, according to the degree and duration of the obstacle by which it has been caused. The congestion of the veins may likewise be traced to its cause—to a tumor compressing them, to disease of the liver, heart, or lungs, which has obstructed the return of the blood through them. In inflammation the local congestion commences in the capillaries, afterwards extends to the small veins, but never to large branches; in mechanical congestion the blood accumulates first in the trunks, which are always conspicuous, and afterwards in the branches and capillaries. It is only when mechanical congestion is combined with inflammation, that the anatomical diagnosis becomes difficult or impossible. In strangulated hernia and intus-susception, we are certain of the existence of both kinds of congestion of the affected portion of intestine from the nature of the causes in operation, viz. compression or strictures on the one hand, and the influence of a morbid stimulus on the other. But when mechanical congestion, produced by a remote cause, is combined with inflammation, it is impossible to detect the existence of this latter disease, or at least to distinguish the one from the other with any degree of certainty. The same may be said of the combination of these two kinds of local congestion, under similar circumstances, in other organs.

Local Congestion from depending Position. There is no certain mark of distinction between redness from this cause, and redness from inflammation occurring in the same parts. So we must generally experience some doubts when such parts are affected with respect to the exact nature of the affection.

But when local congestion exists in parts of organs which do not admit of the operation of this cause or of gravitation, and in the absence of a mechanical cause, we entertain no doubt of its being of an inflammatory nature, or the consequence of a morbid stimulus.

Redness from Imbibition.—There can be no question that this has been frequently confounded with inflammatory colouring, or, rather, mistaken for it. Dr. Carswell's directions for discriminating the one from the other are so precise and so satisfactory that we transcribe them. Whatever, he says, may be the circumstances which favour the red colour of imbibition, it never bears a near resemblance to that of inflammation. It is a mere dye of a uniform, almost scarlet red colour, generally limited to the lining membrane, without any other perceptible change of the coats of the vessel; whereas redness from inflammation is of a dull, rather pink tint, extending more or less to the other coats, accompanied by a fine capillary injection of the subjacent cellular tissue, and marked congestion of the vasa vasorum; the lining membrane is softened and opaque, or easily removed; the cohesion of the other tunics is diminished; they are also thickened or swollen, and infiltrated with serosity or coagulable lymph.

The following extract embodies the opinions of Dr. Carswell on another subject, and although we are not disposed to attach so much weight as he does to the circumstance he dilates on, yet we should be doing an injustice to our readers did we not lay his sentiments before them.

> " I shall conclude this part of the subject by a few remarks on the *permanency* of the redness and vascularity of inflammation after death, as a character by which alone, and under doubtful circumstances, we may ascertain the existence of this disease, and distinguish it from the local congestions with which it may be confounded. And as the value of this character must, in part, be determined by ocular demonstration, it is only in cutaneous inflammations, and in those parts of the mucous membrane which are visible, that we can obtain positive evidence regarding it. The redness and vascularity of mechanical congestion, of position or gravitation, and of imbibition, differ, as we have seen, essentially from those of inflammation, in the mode of their production and other local circumstances. But they also differ essentially in other respects. Thus all these kinds of redness and vascularity are produced and maintained by appreciable causes which operate external to the vessels, without the blood, or the vessels themselves undergoing any change by which the vital properties of either are so modified as to render the redness or vascularity permanent after death. By means of ablution, pressure or scraping, both of these physical characters disappear in a short time. In inflammation it is far otherwise, the employment of the same means never removing, or effecting only a slight diminution of either. Injectings too, which penetrate the capillaries in the former kinds of congestion, cannot be made to reach them in that produced by inflammation. It is necessary, however, to observe, that this state of the capillaries, and the redness which accompanies it, and which constitutes what I mean by the *permanency* of these physical characters of inflammatian, are more or less decided by the degree or stage of the disease. In the highest degree or second stage, the permanency of both is most marked; in the first stage it is much less, the redness diminishing or disappearing entirely ofter death, in slight inflammations of the skin of short duration. This difference in the permanency of the redness and vascularity of inflammation in its two stages may be explained by the facts already noticed, viz. the absence of coagulation of the blood in the first and its occurence in the second stage, in which also the fibrine unites with and penetrates the capillaries,

thereby retaining the colouring matter of the blood, and producing occlusion of the vessels. Although, however, I have said that *redness* disappears after death in slight inflammation of the skin, some degree of increased *vascularity* remains, as is seen by comparing the diseased with a healthy part. And besides, it is of great importance to know that even in such slight cases of inflammation, the cutis undergoes changes which render the existence and extent of the disease very conspicuous after the disparition of the redness, and from one to two days after death. The affected parts only of the skin assume a purplish tint, and become infiltrated with bloody serosity, and the epidermis is detached from these parts much sooner than from those which were not affected by the inflammation. This *post-morten* congestion, and a more rapid tendency to decomposition than in ordinary circumstances, are conditions which ought not to escape the notice of the pathologist, when it occurs in internal organs. They are sometimes the only morbid appearances which are met with in fatal cases of scarlatina, and especially in rubeola, and indicate the extent not only of the inflammation, but of the depressing influence which it must have exercised on the vital function of these organs."

4. *General Considerations on the Fluid Products of Inflamed Tissues.*

These fluid products become valuable signs for the determination of the presence, degree, or stage of inflammation. Dr. Carswell despatches them briefly.

The first change observed in the process of secretion is an increase in the quantity of the natural fluid of the affected part. In proportion as the inflammation augments, the secretion diminishes, and it is suppressed in the second stage or most acute forms of the disease. During its progress, however, continues our able author, the qualities of the secreted fluids present important alterations. In inflammation of serous membranes, and at a very early period, the secreted fluid contains a quantity of albumen; afterwards, and as the inflammation increases, fibrine is added, and generally an admixture of the colouring matter of the blood, and lastly pus. The same order of succession is also observed to take place in the fluid products of inflamed mucous membranes. The mucous secretion, however, is, almost from the commencement of the inflammation, replaced by a serous fluid, which is often very abundant; this is succeeded by the presence of albumen and fibrine, and lastly of pus. The different degrees of fluidity, viscidity, and coagulability of the secretions generally of inflamed tissues are derived from the presence of the serum, albumen, and fibrine of the blood in various proportions. But the most important circumstances connected with these changes in the secretions of inflamed tissues, is the formation, or the separation from the blood, of two fluids of an opposite kind, viz. coagulable lymph and pus. The former, possessing vital properties, assumes, as is said, *spontaneously*, but no doubt in virtue of these properties, the solid form becomes organized, and fulfils the all-bountiful purposes which nature has assigned to it in the economy of life,—the reparation of those injuries so frequently the consequences of the disease of which it is the product. The latter, possessed of no plastic properties, being as it were the residue of the former and of the molecular structure of organs, by a disorganizing or destructive process, is essentially inert, and like all substances, incapable of being assimilated, is separated or removed from the body.

Dr. Carswell concludes with an observation regarding the products of inflamed mucous membranes, which is not unworthy of attention. Although sometimes, he says, assuming the form of membranous layers, cylinders, or tubes, they never become organized, never present the characters of the most simple of the analogous tissues, viz. cellular or serous tissue, so commonly met with in inflammation of serous membranes; and this is not owing to the influence of a physical cause, as their situation, but to a difference in their plastic properties. Under no circumstances has he ever met with a trace of blood-vessel in any of these forms of pseudo-membranous concretions. When the effusion which gives rise to them is accompanied by hæmorrhage, they are occasionally reddened or present streaks of blood.

This terminates the òbservations of Dr. Carswell upon inflammation. As we observed before, this terminates, too, the work. With some faults, it has many and considerable merits, and Dr. Carswell has elevated himself to a high rank amongst the Pathologists of this country. His work will be consulted as always ingenious, generally valuable, and often highly philosophical. In the earlier fasciculi there was certainly a greater proneness to mere hypothesis than has appeared in the latter, and in subsequent editions we would recommend the author to modify the speculative portions. Pathological anatomy should be as exact as possible, and where conjecture is unavoidable, it should both be given and received as conjecture. On the whole, we can most consicentiously recommend all who have the means to purchase Dr. Carswell's work, and to patronize a production as well as an author of great merit.

The present Fasciculus contains four Plates as usual. As usual too, their execution is beautiful, and it would be hard to particularize any as more so than the rest. The first Plate exhibits Inflammation of the Cutaneous Tissue —the second, Inflammation of Mucous Membranes—the third, Inflammation of Serous Membranes—the fourth, Inflammation of Compound Tissues or Organs.

II. Morbid Anatomy of the Serous Membranes.

In a former number of this Jounal, we laid before our readers an account of the second lecture of Dr. Hodgkin, devoted to the examination of the morbid anatomy of the serous membranes in general. The third, the fourth, the fifth, and the sixth lectures, are occupied with the consideration of the lesions of the particular serous membranes—the arachnoid—the pericardium—the pleura—the peritoneum—the tunica vaginalis—and the bursæ.

We had hoped, that, ere this, the second volume of these lectures would have been given to the world, and that the morbid anatomy of the mucous membranes would have been added to that of the serous. But, unfortunately, since the publication of his first volume, the able and the amiable author has been attacked with sickness, and has been incapacitated from pursuing his useful, and honourable labours. We hope that the day is not remote, when his restoration to health and to science will afford delight, not only to his immediate friends, but to a whole profession.

We shall not go circumstantially into every particular connected with the lesions of the several serous membranes; many are familiar, and on those we shall not touch—some are not at all, or little so, and on them we shall insist at greater or less length.

A. LESIONS OF THE ARACHNOID.

In treating of inflammation of the arachnoid, Dr. Hodgkin considers the membrane as consisting of four portions. Of these, the first comprises tha, which is external to the brain; the second, that which lines the ventricles; the third, the portions which belongs to the plexus choroides; and the fourth, that of the spinal cord.

The Arachnoid external to the Brain.—In most of the serous membranes, the inflammatory effusion is generally found within these close sacs. This is very rarely the case with the arachnoid. Villermé says that he has never seen it. But Dr. Hodgkin has, and in an instance not traumatic, where, of course, it is much more likely to happen. He details the case.

Case.—A young man, aged 23, had, for several months, been labouring under lumbar abscess. He never manifested any symptoms of affection of the head, until between four and five hours before the time of death. On inspection, besides other very interesting appearance, which it is needless here to describe, small but sufficiently evident and unequivocal recent adhesions were found between the arachnoid covering the dura mater, and that covering the pia mater. The far greater part of the effusion was, however, in the usual situation, beneath the arachnoid covering the pia mater: it was of a light yellow colour, and of a thin puriform consistence. It must not however be concealed, that, even in this case, the arachnitis appeared to depend on a local cause, which, though at a distance from the head, was nevertheless in a part most intimately connected with it. The lumbar abscess had formed a communication with the spinal canal, through the intervertebral foramina, by which the nerves pass out.

Another example, continues Dr. Hodgkin, of the product of the inflammation of the arachnoid occurring between its two polished surface is recorded by Rostan. In a patient who died in the Saltpétrière, at the age of 64, who was originally rachitic, and who had twice been attacked with apoplexy, the last seizure of which took place eleven days before her death, a layer of puriform and albuminous matter, differing from half a line to a line in thickness, was found covering the surface of the arachnoid lining the dura mater in both of the temporal fossæ, and in the anterior and laternal part of the right hemisphere. It is expressly stated, that this layer had all the characters which belong to those found on the internal surface of the pleura.

But the cases related by Dr. Foville are very precise and satisfactory. He mentions six, the results of which are presented to us by Dr. Hodgkin.

Two considerable layers of false membrane extended over the whole of the internal surface of the arachnoid lining the dura mater and the external surface of that covering the brain, and were applied to these two surfaces; to which they were so slightly attached, as to admit of ready supuration from them. They presented a considerable and uniform thickness, a good degree of firmness, and were of a yellow colour. There was but slight and partial adhesions between their opposed surfaces. There was thus four distinct membranous layers external to the brain: 1. The dura mater with its serous lining; 2. The layer of the false membrane corresponding to it: 3. A similar layer corresponding to the surface of the arachnoid investing the brain; and, 4. This portion of the arachnoid with the pia mater. The striking resemblance observable between all these cases induce Dr. Foville to believe that there is a special tendency to produce this form, whenever inflammation extensively affect the free surface of arachnoid. The distinctness and uniform diffusion of the two layers of false membrane he thinks attributable to the movements of the brain; and he points out the analogy to some cases of pericarditis, in which a similar disposition occurs. In all these cases of arachnitis, there was some effusion between the two layers of false membrane. In some, it was of moderate quantity, and in others more considerable. In the last case which the Doctor had met with, a considerable quantity of blood had been effused, which caused the patient's death. All these cases had commenced by an acute cerebral attack; which, in one instance, occurring in an old soldier, had been caused by a violent blow on the head. In the other instance he had not been able to ascertain the cause. There was a similarity in the symptoms presented before death in all these cases, in several of which they had existed for years. They exhibited a state of the most complete stupidity, accompanied by an apparent paralysis of nearly all the organs of sense. The patients actually resembled statues; with this difference, that when pushed, they walked; when set upright, they kept their balance; and when food was put into their mouths, they swallowed it. Their eyes, eye-brows, and other parts of the face, remained perfectly motionless. The sensibility of their skin appeared mechanical; for if a limb were pinched, they would withdraw it, but without any other evidence of suffering.

Films of false membrane have been repeatedly observed, by Dr. Guersent and Dr. Foville, in the temporal fossæ, and other parts of the base of the brain in children.

A puriform secretion in the arachnoid cavity is comparatively common as a consequence of injury. We need cite no instances of this sort.

Adhesions between the two layers of arachnoid are extremely rare. But they are met with, as the consequence of injury.

Morbid appearance resulting from inflammation are frequent enough on the attached surface of the arachnoid, or rather between it and the pia mater. The disturbance of the intellect produced by this form of arachnitis is familiar, and is explained by the fact that the sub-arachnoid cellular tissue is traversed by the vessels of the cerebral structure, and by the conjecture, that the cortical substance of the brain is principally concerned in the manifestation of intellect.

Serum is most commonly found in the sub-arachnoid cellular tissue—sometimes lymph—more frequently a puriform fluid.

Dr. Hodgkin quotes from Dr. Foville, and we quote from Dr. Hodgkin, a description of the earlier appearance, characterising arachnitis.

> "'The anatomical characters of meningitis are furnished,' as he observes, 'by the pia mater, by the arachnoid, and by the surface of the brain. The earliest stage is characterized by the delicate injection of the most minute vessels of the pia mater. The injection is so general, that it causes the external surfaces of the brain to appear of an extremely bright red, after a few minute's exposure to the air. The transparent serum naturally pervading the pia mater has become very scanty, and in some cases appear to be wholly wanting. The free surface of the arachnoid has neither the polish nor the moisture which it presents in its healthy state, but is slightly viscid, and sometimes dry and dull: the membrane

are very readily torn, and are therefore detached in small fragments, which makes it tedious and difficult to separate them from the brain. The surface of the brain is manifestly reddened, minutely injected, and sometimes swollen in a remarkable manner. The redness is rendered most conspicuous when very thin slices are cut from the surface. There is sometimes such a deficiency of moisture in the brain, that the membranes appear to adhere to it; yet a little attention will convince us that this appearance is deceptive, and that it simply depends on the viscidity of the brain to which they are applied at those spots on which they are the most firmly pressed together. Such are the appearance observed in those rare cases in which death has quickly carried off the patient in the first period of acute meningitis.'" 75.

When serous effusion exists in the sub-arachnoid cellular tissue, the arachnoid itself is apt to become opaque. This opacity is considered by some as the result of maceration in the effusion—by others as the direct result of inflammation. Dr. Hodgkin inclines to the latter opinion, and believes that the appearance is one of the traces of an arachnitis of old date or chronic character. This is a matter difficult of determination. But of one thing we are certain. It is rarely that, in a person advanced in life, we do not find, on dissection, some serous effusion in the cellular tissue beneath the arachnoid, and some opacity of the latter membrane. If these, in a certain degree, are to be deemed evidence of old or of chronic arachnitis, then there are few aged persons who have not had the one or the other, without the occurrence of symptoms of either. We are inclined to place this alteration of parts in the same category as the alterations of the arterial coats, &c.—alterations which, though they resemble the consequence of inflammatory action, ought to be physiologically distinguished from them, and considered as natural degenerations and modifications of nutrition.

The appearance known by the name of glands of Pacchioni is another subject of doubt to pathologists. When the white substance on the arachnoid which produces it, exists in a larger quantity than usual, it is fair to suppose it morbid.

It has been disputed whether the internal surface of the dura mater is really lined by arachnoid. Rational hypothesis, analogy, and pathology seem to concur in inclining the balance towards the affirmative. Dr. Foville mentions, as the effects of recent inflammation between the arachnoid and dura mater, partial and irregularly circumscribed elevations of this part of the arachnoid, sensible both to the eye and to the finger, and accompanied by a brownish or a yellowish-red hue. When a portion of the dura mater and arachnoid exhibiting this state is detached from the calvaria, and pressed between the thumb and finger, as they are made to move upon each other the two membranes are found to separate readily in consequence of the altered state of the cellular membrane between them, which, in fact, is the structure chiefly affected. Bichat mentions a case of chronic inflammation of this part of the arachnoid, in which the membrane was sensibly thickened, and very easily detached from the dura mater.

Ossific deposits are often found between the arachnoid and the dura mater lining the cranium—more frequently upon the falx.

We do not perceive any thing to detain us in our author's observations on the *arachnoid of the ventricles*—or on the *arachnoid of the plexus choroides.* But we may cite a case of hæmorrhage between the dura mater and the arachmoid attached to its internal surface as additionally corroborative of the opinion that such a layer of arachnoid does exist, Supposing that no fallacy is mingled with the observation, it would indeed establish the opinion conclusively. Rostan has recorded three cases of a similar discription.

Case. "On examining the body of a mulatto, about fifty years of age, who had lain for some time in a nearly comatose state, a considerable quantity of fluid escaped on opening the dura mater. It appeared to have been situated between this membrane and the arachnoid covering the pia mater. Blood was thinly but extensively extravasated over a great part of the inner surface of the dura mater. This extravasated blood was most copious on the left side, but by no means confined to it. It was in the greatest abundance about the base, but was likewise seen on the upper part. It presented, for the most part, a smooth polished surface towards the arachnoid covering the pia mater; and was covered by a thin, even, firm, and generally transparent membrane, which in some parts seemed to be double, having the effused blood between its layers. This delicate membrane could be nothing else than a portion of arachnoid reflected over the dura mater, and giving it its polished surface. Though very thin, it was too firm and resisting to be regarded as a false membrane formed from the fibrin of the effused blood. The dura mater, when this membrane was peeled off, lost its natural polish, and exhibited its fibrous texture. On different parts of the surface of the brain, but chiefly at the base, there were scattered irregular spots of an ochre-yellow colour, in which there was softening and loss of the substance of the brain; but these appearances only extend to a very slight depth. I have met with another case of this kind, in which the blood extravasated between the arachnoid and dura mater was in part diffused, and in part collected into small defined portions, forming elevations of about the size of pepper- corns." 83.

Spinal Arachnoid.—From the cerebral, Dr. Hodgkin naturally passes to the spinal arachnoid. His observations on its lesions contains nothing which we need extract, with the exception of a few remarks upon its thickening.

As a consequence of old or chronic arachnitis, we sometimes find such a deposition of plastic lymph, either in the form of cellular membrane, or reduced to a denser substance, that the membrane appears thickened, and the distinction of its original layers is nearly or quite impossible. In this state, the arachnoid is not easily separated from the medulla, which is closely embraced, and even compressed by the contraction which has taken place. When these effects of arachnitis are found about the cervical portion of the cord, they are almost always combined with a similar condition of the arachnoid at the base of the brain, about the pons varolii and medulla oblongata. At the lower part of the cord it may exist separately.

"This thickening and contraction of the spinal arachnoid is well worthy of attention, in reference to practice. I believe it to be one of the causes of paraplegia, which must be more or less complete, according to the amount of compression exercised upon the chord; and that, when the case is not extreme, progressive improvement may take place, both by the chord becoming accustomed to its pressure, and also by the slow and partial absorption of the adventitious deposit, which, though not wholly removed, may thus become of a laxer and more yielding texture. These considerations seem to explain the progressive but slow improvement which we sometimes observe in cases of paraplegia; and should teach us to wait with patience. desisting from energetic measures, such as copious local depletion, deep and extensive setons, and other potent means of counter-irritation; which may not only be resorted to in vain, but may increase the dangerous sloughing of parts exposed to pressure, while deprived of their ordinary degree of innervation. At the same time, I wish not to be understood as recommending that these cases, in their chronic state, should be left wholly to nature. I am persuaded that I have seen advantage derived from the careful and persevering use of means which are supposed to exert an influence upon the spinal chord; such as, nux vomica, carbonate of iron, and electricity, in conjunction with other means which the general health may require.

In those cases of arachnitis of the chord in which the inflammation had not yet passed into the chronic form, I have seen the vessels of the pia mater, at the affected part, considerably injected; and in one instance, the blood had acquired a blackish colour. Whether the arachnoid may have been injured by mechanical violence, or by exposure to cold, it is not uncommon to find the spinal chord itself more or less affected; being either softened, or having its cineritious matter unusually injected. Sometimes it presents a vermiform or granulated appearance; which may be attributed either to the compression of the contracted arachnoid, or to the turgescence of the affected part of the chord; or both causes may be combined." 88.

The cartilaginous or bony deposits occasionally found upon the cord, and sometimes regarded as the cause of chorea, tetanus, &c., are considered by Dr. Hodgkin as unequivocally morbid, and as indicative of such a want of integrity in the cord, as may predispose to grave affections of it.

B. LESIONS OF THE PERICARDIUM.

So much has been said and written, of late, in reference to the inflammatory lesions of the pericardium, that we shall not attempt to follow our author into their details. We shall merely select a few passages for notice.

a. When there is a considerable admixture of inorganizable matter, the production of adhesions is prevented; in which case, the surface of the heart is not unfrequently covered with long, shaggy, soft, and very feebly organized villi. It is this state of the heart which has, in all probability, led to the idle and absurd stories of the heart having been found covered with hair. The heart of the great Messenian hero, Aristomenes, is said to have been hairy; and a similar account has been given respecting the heart of Old Parr, and of some other individual equally remarkable for his longevity.

b. Dr. Hodgkin alludes to the common and erroneous opinion, that the coagulable part of inflammatory effusion consists of albumen. Dr. Dowler has fully demonstrated, that, in the most plastic of these effusions, it is composed of fibrin.

c. "Acute pericarditis appears to be of by far the most frequent occurrence in young persons just arrived at, or but little past, the period of adolescence. It is probable that the danger of pericarditis is commonly much overrated, and that its comparative frequency is equally underrated. Louis's researches lead him to the conclusion, that pericarditis attacks, on the average, about one person in twenty." 96.

d. Ossification of the heart is a lesion more talked about than seen. The following are the results of Dr. Hodgkin's extensive opportunities of observation.

"Inflammation of the pericardium not unfrequently leads to a deposition behind the reflected, as well as on the close portion. Whilst on the free surface bony matter is of rare occurrence, and is seldom if ever found except in small isolated masses, on the attached surface the compact product of inflammation is apt to assume the form of bony plates. These cases, when the extent of ossification has been considerable, have been erroneously described as ossifications of the heart; and they have, I suspect, been somewhat exaggerated, by those who have wished to find in them an argument in favour of the arteries possessing the power of propelling the blood, and, consequently, muscular structure and function. One of the most considerable examples, with which I am acquainted, is seen in a preparation belonging to our Museum. The osseous plate occupies a large portion of the base of the heart, where it forms a complete bony ring. The apex of the heart is, however, left at liberty; and, consequently, the contractions of the ventricles, though doubtless much interfered with, were by no means wholly prevented. It was taken from a young woman twenty-two years of age, who had laboured under ascites for ten months, and had been tapped ten times. The ascites was preceded by an attack of dyspnœa with orthopnœa, which subsided in a fortnight. No symptom connected with the thoracic viscera was afterwards noticed." 97.

e. We shall quote Dr. Hodgkin's hypothesis of the formation of those opaque white patches, which are occasionally seen on the surface of the heart.

"It is very common to find one or more opaque white patches on the surface of the heart. Dr. Baillie says that they may be dissected off; and Laennec says that this is frequently the case. I have met with one or two instances in which this might have been done; but I certainly agree with Corvisart, in thinking that, in by far the greater number of cases, these patches depend on a deposit on the attached surface. They are generally found on the anterior part of the right ventricle, and rather nearer to the apex than to the base of the heart. They are, however, by no means confined to this situation. Respecting the cause of these spots, which can scarcely be regarded as a morbid appearance, nothing certain is known. From the circumstance of their being often found immediately under the sternum, and from their being occasionally met with on other parts of the heart to which a firm and resisting body has been unusually opposed—as, for example, where a bony deposit has taken place beneath the reflected pericardium, or when an uneven and remarkably indurated liver has, even through the diaphragm, presented an unequal pressure against a particular part of the heart—I have thought it probable that such pressure, aided by the movements of the heart itself, may have led to the production of these spots. These formations may certainly take place at a very early period of life. I have met with one rather loose and thick, but in other respects perfectly resembling those found in the adult, on the right ventricle of the heart of a child only ten weeks old. Similar thickening of the close pericardium sometimes marks the course of the coronary arteries and their branches; and this circumstance, amongst others, tends to confirm the idea which I entertain, as to its mode or formation." 98.

We cannot say that Dr. Hodgkin's theory appears to us very plausible. We have seen the patches so close upon the auriculo-ventricular groove, as to render it highly improbable that they could have been produced by any pressure on the sternum.

C. LESIONS OF THE PLEURA.

This lecture derives its main interest, indeed its bulk, from its offering a very complete account of the important affection—empyema. This account is too lengthened for our present purpose, and we shall quit, for the moment, Dr. Hodgkin's work, and the subject of Morbid Anatomy.

Periscope,

OR

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

Traite Theorique et Pratique de la Derivation, &c.—A Theoretical and practical Treatise on Derivation in Affections the most Common, as Plethora, Inflammation, Hæmmorrhage, &c. By *L. F. Gondret,* M.D. 8vo. pp. 331. *Paris,* 1837.

It would not require a great deal of ingenuity to render it highly probable that nine-tenths of our most scientific, as well as empirical *medication*, consist of derivation, counter-irritation, or revulsion. Every remedy, or nearly so, applied to the external or internal surface of the body, acts in one or other of these ways. We might perhaps add some of the deadly sedatives, as prussic acid, belladonna, or the poison of some animals—whose operations are inscrutable. But these form a small part of our magazine of remedial agents. Even specifics, as mercury, operate, in all probability, in the way above-mentioned. Mercury irritates or stimulates the liver and numerous other glands, by which a revulsion is made from diseased or disordered structures, and relief obtained. Jalap, sulphur, and all purgatives, effect counter-irritation in the line of the alimentary canal, and consequently revulsion from numerous other parts of the living machine. Blisters, rubefacients, and all external applications of that descriptions, are acknowledged to be medicinal entirely from the irritation in question. St. John Long *derived* his income, fame, and even his sepulchre, from counter-irritation—and Baron Dupotet is now gathering his golden opinions, if not guineas, by revulsion of human reason, and excitement of the credulity in both sexes. The author of the little work before us is not undistinguished in his own country as a man of some talent; but like all men of genius, he has a small crotchet in his brain—which is, that the great majority of diseases arise from, or are the products of (*sont produites par*) plethora, inflammation, or hæmorrhage—all of which, he maintains, are but modifications of one morbid process. To these three modifications, however, he adds a fourth, which he considers as something special or specific—a sense of weight (*pésanteur*), which he attributes to an overplus of fluid in the part affected, not less indicated by sure signs than the celebrated *rubor*, *dolor*, *calor*, *humor* of the schools. It is always, in his estimation, connected with one of the three morbid conditions above mentioned, plethora, &c. He guards against attributing all, (only the majority) of maladies to the foregoing states. Genuine typhus (which he has studied since the year 1794) he regards as a cerebral affection, analogous to plethora. By long experience he has become confirmed in this opinion, by the benefit which he saw result from cupping the head, especially along the course of the lambdoidal suture—and dry cupping the lower extremities. He relates cases drawn from the Hotel Dieu practice so late as 1831.

Dr. G. contemplates "Derivation" under two points of view—as normal and therapeutic. The former consists of regular action of all the secretions and excretions—in other words it is sound health. Therapeutic derivation consists in restoring normal derivation, when deranged, by artificial means—such as sudorifics, diuretics, purgatives, &c. From anatomy our author draws the conclusion that the head is supplied with a most extraordinary quantity of blood, in proportion to other parts of the body—the carotids and vertebrals being larger than the two great arteries, carrying blood to the lower extremities. The Doctor protests against the application of leeches and cupping-glasses to the head, in acute diseases of the brain, as calculated to increase rather than diminish the local plethora. However specious may be the theoretical reasonings on this point, experience dispels them at once, because we actually see acute cerebral affections relieved and cured by local depletion in the immediate vicinity of the organ. Dr. G. indeed may say—try the bleeding about the legs and feet when you have phrenitis or apoplexy—and you will find the latter plan the best. Why, it is tried every day in France and Germany;—but we do not think with the success attendant on the English practice. He does not object, however, to cupping-glasses to the nucha, but to leeches on the temples or behind the ears he has a decided antipathy. He thinks the bites of the leeches cause such irritation or inflammation as to attract blood to the head. In chronic diseases of the brain or eyes, Dr. G. objects not to the leeches. He does not apply his reasonings in the same manner to other parts of the body.

On the contrary, when the lower regions of the trunk or members are the seat of plethora, inflammation, hæmmorrhage, &c. as in gastro-enteritis, hæmmorhoids, uterine discharges, &c. the surest means of counteracting these affections, are, by cupping the back, loins, and shoulders by way of derivation. Our author, however, trusts greatly to a counter-irritant, called the "POMMADE AMMONIACAL,"—a combination of oil of almonds with caustic ammonia and lard, in the following proportions:—

R. Axungiæ . . . . . . ʒvii.
Ol. Amygdal . . . . . ʒiss.
Liquor. Ammon. . , . . . ʒv. vel. ʒvj.
Misce ft. Linimentum.

Upon this counter-irritant, the Academy of Sciences charged MM. Portal, Thenard, Percy, and others, to make a report, which is given in this volume. They observe that this POMMADE may be irritant, rubefacient, vesicatory, or escharotic, according to the mode of application, or the indications for which it is employed. These effects, they observe, are regular, constant, and easily obtained. They consider the remedy as very useful, and applicable to a great many diseases. Absorption never takes place apparently, and the utility depends on the counter-irritation. In this respect they estimate it as much superior to the Cantharides.

We need not follow our Author through the long catalogue of acute and chronic maladies in which he has employed the "POMMADE"—the actual cautery—and the removal of atmospheric pressure by cupping-glasses. There can be no doubt that this class of remedies has been too much neglected in this country—partly from laziness to superintend an external application,—but principally from the unhappy mode of remuneration for polypharmacy instead of advice. We do not suppose that the POMMADE is superior, or even equal, to the antimonial ointment; but the practice of counter-irritation and derivation ought to be encouraged because it is not sufficiently extended in these Isles. It is, however, increasing; and we believe that the charlatannerie of St. John Long has been beneficial in this respect, as stimulating British practitioners to employ means which were very successful in the hands of a quack.

But the removal of atmospheric pressure, by means of the ingenious contrivance exhibited by Sir James Murray last year, in Liverpool, is what we are anxious to draw attention to at this time. The dry-cupping is a poor and a painful substitute for the pump-apparatus of Sir James. This powerful machine is capable of producing the most extraordinary derivation of blood from one part of the body to the other. Almost all the fluids of the head and trunk might be drawn to the lower extremities by this apparatus, and retained there as long as the operator chose. We have little doubt that, ere many years, this apparatus will be in the hands of most medical practitioners.

ARSENICATED CANDLES. Extracts from the Report of the Westminister Medical Society.

THE ingenuity, not to say the wickedness of man, in devising means of fraud and adulteration in this enlightened age, is not very creditable to the human heart, however complimentary it may be to the head. The arsenicated Candle is one of the latest poisons thrown into the cauldron for the *consumption* of the community; and much credit is due to the Westminster Medical Society, and especially to Mr. Everitt, for detecting the enemy, and throwing a *light* on this dangerous adulteration. To Dr. Scott, of the Strand, the Society and the community are also under considerable obligations for the trouble and expense attendant on the experiments at his house. But the public are more indebted to Dr. Granville, than to any other individual, either of the Society, or the Committee, for the admirable Report which he has drawn up, almost entirely from his own researches, observations, and reflections. We regret that our space will not permit us to give the whole documents; but our extracts will be sufficient to convey much of the spirit as well as the material of the paper.

"Those who have followed the progress of analytical and organic chemistry for the last quarter of a century, need not be reminded, that CHEVREUL, one of the most distinguished French chemists of the present day,—in the course of a laborious and interesting investigation into the nature and elementary composition of animal facts—an investigation which lasted ten years, and has been characterised by Berzelius as the most complete and most perfect that has ever been undertaken by chemists—discovered that common tallow consisted of two distinct substances: the one solid, the other of the consistence and appearance of olive oil; to the former of which he assigned the name of *Stearine*, (tallow) and to the second that of *Elaine*, (oil.)

The first of these substances, the only one with which the Committee had any concern, when modified by saponification, crystallizes (in its pure state) in long brilliant and silky needles, arranged in large compact masses, beautifully white, almost odourless, and resembling, in a great degree, those square lumps of pure spermaceti, which may be seen exhibited in the windows of wax-chandlers' shops in Londom. With these physical advantages over ordinary tallow, and another also, namely, that of resisting a much higher temperature without melting, it might have been expected that this modified Stearine, as it will be called for brevity's sake in the course of this Report, or solid Stearic acid, would soon have been employed for the purpose of fabricating a superior sort of candles. Such, however, was not the case, until several years after its discovery, namely, about six or seven years ago, when Stearine candles were first manufactured in Paris; for they appeared to have formed part of the exhibition of the products of French industry, which took place in that capitol in 1834, and which has been described in a work, in three vols. 8vo., by Baron Charles Dupin.

From authentic documents in their possession, your Committee learn, that the mode of manufacturing candles with Stearine, had at first presented difficulties, which were only overcome by some process that was kept a profound secret in Paris; and a knowledge of which was sold some time after to a London manufacturer, who immediately introduced it into this country. The names of the parties are known to your Committee, and will be found in the minutes of their meetings, as well as among the documents laid before the Society; but the introduction into this Report of such names, or that of any other manufacturers of Stearine candles, under whatever denomination they be sold, has been deemed unnecessary and unadvisable.

Although Stearine was prepared in London in considerable quantity, candles manufactured with it were not, at first, so numerous, as they have become since; owing to the secret process employed, to render them fit for sale. Your Committee have been informed, by a very intelligent manufacturer of candles, who made use of, but has since given up the process in question, that an individual in possession of the secret, went about to the candle-makers in London, to sell, for a consideration, not only the mode, but the very material, with which Stearine was to be made fit to be converted into showy and attractive candles for the market.

The material in question was very soon ascertained by some of the candle-makers to be powdered white arsenic; and thus having emancipated themselves from the tax, which they formerly paid for what had now ceased to be a secret process,—those persons were enabled to extend the field of their operations, whereby the practice of manufacturing Stearine candles with arsenic, became very soon almost general. Nay, such was the effect produced on the market by the appearance of this novel and extensive branch of trade, (at a price lower than that of any other candles, except those of common tallow,) that some of the most respectable manufacturers of wax and spermaceti candles were compelled to resort to the making of the new Stearine candles, (according to the then well-known process, which your Committee have learned, consisted of putting one pound of white arsenic in every hundred weight of Stearine,) in order to retain their customers, and, in some measure, indemnify themselves for the losses sustained, in consequence of the great diminution that had necessarily followed in the sale of every superior sort of candles.

As is generally the case in all matters of this kind, notwithstanding the notoriety of the practice among the trade, the public, whose welfare was likely to be affected by it, remained in ignorance of the fact, that in using the new Stearine candles they were burning arsenicated candles; until Mr. Everitt mentioned the subject in a lecture delivered in June last, before the Medico-Botanical Society—and again until Dr. Scott, in October, as stated in the introduction to this Report, brought it to the notice of the Westminster Medical Society, and led them to the present investigation.

The admission made by the parties themselves, who employed it, that arsenic was contained in the candles in question, might have been deemed sufficient for the purpose of the present investigation: but your Committee could not rest satisfied without verifying the fact by chemical analysis, and still less without ascertaining the quantity present in each candle: as that point was held to be of great importance in determining the probable injurious effects of such candles on the human constitution.

Accordingly a great many specimens of the candles in question, were procured from several shops, under various denominations, and were submitted to accurate analysis. This was confided principally to Mr. Everitt, who repeated his experiments before several members of the Committee, and whose results were afterwards corroborated by some fresh experiments made by Mr. Golding Bird, supported by the testimony of Mr. Richard Phillips.

The Society, through the kindness of the first of these three chemists, had an opportunity of witnessing, at one of their ordinary meetings, the repetition of some of the experiments in question; which consisted not only in testing the water (with which the suspected Stearine had been boiled for some time) by proper re-agents denoting the presence of the white oxide of arsenic; but also in reproducing the metallic arsenic from the precipitate that had been obtained in the liquid by means of sulphuretted hydrogen gas.

Through the various experiments which he made, and often repeated, Mr.

Everitt satisfied your Committee that the quantity of white oxide of arsenic, or arsenious acid, contained in the candles submitted to analysis, varied in different samples from ten to eighteen grains in the pound of four candles, and that the largest proportion of it, namely, four grains and a half in each candle, was found in the specimen which bore the lowest price of sale.

By another set of very ingenious experiments, conducted with the greatest precision, it was ascertained that this quantity of arsenious acid is only mechanically mixed with the Stearine, and not dissolved in it, (the saponified Stearine appearing to be scarcely capable of holding any portion of it in solution:) and it is worthy of remark, that a larger quantity was found at the top of some of the candles, which in the act of moulding forms the lower end in the mould, than at the bottom. The difference between the two ends amounted to nearly one-third of the whole: so that when such a candle is first lighted it must emit a larger quantity of arsenious acid, than when it is nearly burnt out. These several quantities of the poisonous substance are given out during the combustion of the candle, in the form of subtle vapours of arsenious acid, a fact which was proved by the deposits obtained on the inner surface of glass vessels placed over the lighted candle, and which deposits were carefully examined.

But in order to leave no vestige of doubt on this point, Mr. Everitt contrived a little apparatus, by means of which the vapours emitted by a suspected candle in a state of ignition, were obtained, partly in a solid form, adhering to the inside of the body of a retort; and partly dissolved in the condensed steam deposited in the horizontal tube of the same retort, which was kept, for that purpose, in a constant state of refrigeration. Under both those forms arsenious acid was detected.

It is to the interesting question of what are the productions of the combustion of arsenicated animal fats, that one of the members of your Committe, Mr. Golding Bird, chiefly directed his attention. He first experimented on arseniferous gases, and afterwards instituted some direct trials with a mass of fat, in which arsenious acid was mixed, and which by means of a wick was set on fire. In watching the operation in both cases, Mr. Bird convinced himself of the fact, that according as the combustion is impeded or free—that is, according as more or less oxygen has access to the flame—metallic arsenic—or the so-called black oxyde of arsenic (?)—or arsenious acid, is given out and deposited under their respective characteristic forms. According to Mr. Golding Bird's experiments, there might be a point of such low combustion in the burning of arsenicated fats, as to give rise to that most deleterous and fatal gas called arseuuretted hydrogen gas.

In the course of their analytical enquiries, your Committee received specimens of candles for examination, from clubs, institutions and private families, some of which were found to be arsenical, while others were not so. And in order not to leave any point undetermined, the analysis, in some instances, was extended to wax, spermaceti, and the old-fashioned composition candles, in none of which the noxious material was detected.

It would be superfluous to specify more minutely or technically to the Society, the several operations gone through by your Committee, with a view to settle the chemical question of the presence of arsenic in the above candles. It is sufficient to state, that the fact of its presence in such candles was established beyond all possible doubt, and that the quantity contained is considerable.

Your Committee next directed their attention to the best mode of ascertaining, as far as such an investigation can admit of demonstration, the probable effect which the respiring of the ascertained quantity of arsenical vapour might have on animal life; and after some consideration, it was determined to expose various living animals to an atmosphere in which arsenicated, or Stearine candles, were burning, at the same time that an equal number of the same species of animals, and, as nearly as possible, of the same age and strength as the first set, were placed in an atmosphere of similiar dimensions, wherein spermaceti candles only were used."

Here follow the experiments which were varied and satisfactory, being conducted with the greatest care and precaution.

"With respect to these seven birds, which died in the course of a week, your Committee will only offer a few general observations, in addition to the symptoms already specified. First, it was remarked that they drank at least four times as much water as the other birds, not exposed to the arsenicated candles; that when they had taken a seed into the beak, and broken the shell, they resorted to the water, and immersed the bill before they swallowed the seed; that they gradually lost their inclination for food; and, lastly, that they were affected, during the best part of the experiments, with diarrhœa, accompanied by a continual propulsive and retractive action of the anus. The discharge was a greenish serous fluid, very different from the fæculent matter of birds.

It has been stated, that during the combustion of arsenic associated to animal fats, in which both hydrogen and oxygen are present, the three possible states in which vapours may arise, according to the degree of combustion going on, are: first, arsenuretted hydrogen gas; secondly, a vapour holding a mixture of metallic arsenic and its so called black oxide; and, lastly, a vapour of white oxide of arsenic or arsenious acid. The first is only a possible, but not a very probable occurrence. When it takes place, its effect on animal life is quickly fatal. The second can hardly take place at the temperature at which the combustion of Stearine candles goes on. But the third is a more general case, and it is to its effect on health and life, that the society need direct their attention.

What may be the condition of the atmosphere around a vessel or a burning candle, emitting vapours holding black oxide of arsenic, as it has been called, your Committee are not able to state, nor is it to their purpose to enquire. Still they find it asserted by Dr. Merat, in his voluminous work on Materia Medica, that the *poudre à mouches* (which is the preparation of arsenic alluded to), employed in France to destroy flies, is fatal to them, if they but approach the atmosphere around the vessel containing its solution.

Then follow several historical instances of the deleterious effects of the vapours of arsenious acid on the human frame, which we are unable to quote, but which cannot possibly excite a doubt in the mind.

"Such being the case, is it too much to assume, that whenever a large number of candles of arsenicated Stearine are lighted in a room, a club-house, an assembly, a theatre, or a church, filled with people, who remain for some hours exposed to the vapours arising from the combustion of those candles, mischief to the health of some, at least, of the parties, may be expected? Let us suppose that the interior of Drure-Lane Theatre, whose brilliant lustres hold exactly one hundred and fifty-two candles, were to be lighted with Stearine candles for cheapness' sake, and under the impression that such candles are better looking than other composition candles, burn better, last longer, and give a clearer light; (all which has been promised by their manufacturers, but which your Committee have found from experience not to be quite correct;) in that case 608 grains of arsenious acid would be vaporized, and float in the air during the time of the performance. Is any one prepared to assert, that not one of the individuals present on such occasions would receive the slightest injury from an arrangement of this kind, and from the subtle particles of the arsenic wafted to and fro, through the atmosphere of the house, by the system of ventilation employed in it?"

Numerous documents are then brought forward by Dr. Granville, shewing the attention of the French government to this subject, which government took care to stem the evil of arsenical candles in its embryo by legislative measures.

"In spite of the length to which their Report has already extended, your Committee deem it essential to the completion of their inquiry, to conclude with some useful and practical remarks.

The various specimens of candle examined by your Committee were either procured at different shops, or were given to them under the following several appellations:—Stearine candles—German wax—Imperial wax candles—French candles—Pressed tallow—tropical candles—moulded wax—and Venetian wax. The committee have been told (but of this they have no personal knowledge) that candles of the same description were sold, some time ago, under other denominations, such as adamantine candles, pearl candles, &c. In fact, each candlemaker thinks it essential to give a different name, as well as to affix a different price to his own candles made of one and the same material; namely, Stearine.

This substance, when in its saponified and crystallized form, being brittle, arsenic is added to harden it, as well as give it more adhesions. The Committee had two Stearine candles made without arsenic, and certainly the difference in appearance and feel of the candle, was in favour of those which contained arsenic. The effect, however, sought to be produced by arsenic, your Committee are led to believe, may be produced also by a very small proportion of wax, as in the case of spermaceti candles, which cannot be made for the same reason, without using a thirtieth part at least of wax with it—for *Cetine*, the principle of spermaceti, likewise discovered by Chevreul, possesses, equally with pure Stearine, the particular brittle grain complained of.

Your Committee have learned from an experienced manufacturer, that for ten dozen of pounds of candles of Stearine, one pound of arsenic is employed. In order to make it intimately mix with Stearine, and produce the desired effect, the temperature of the latter must be kept at 200 deg. of Fahrenheit. The wick, also, which is platted, is dipped in diluted sulphuric acid, till it is nearly rotted,—and a little gamboge is added to the mass to colour it yellow in imitation of wax. This imitation is farther strengthened by the opacity, which arsenic seems to impart to Stearic acid. But the public need not be deceived in the purchase of such candles—first, because the lowness of their price is in itself sufficient to show that real wax, or anything approaching to it, cannot form the least part of such a candle,—and secondly, because there are characteristic features in the Stearine arsenicated candles which happily distinguish them from all others. With regard to the price, however, that is not always a sufficient guarantee, for it has come to the knowledge of your Committee, that one of its members, upon sending for a genuine wax candle at a shop, got one as like to wax in appearance, as it was in price, but which proved to be an arsenicated Stearine candle! The latter may in a moment be distinguished from wax by the platted wick, which has never been yet used in wax candles; and from spermaceti candles, first by the transparency of the latter, and secondly, by this general character, that when the surface of either a spermaceti or a wax candle is rubbed backwards and forwards three or four times, with the edge of an ivory knife, the polish or lustre is much heightened; whereas the surface of the Stearine candle, treated in a similar manner, loses the slight polish it naturally has, becomes dull, and no effort can restore the lustre equal to that of the other parts of the candle.

The fractured surface too of the Stearine candle suddenly snapped in two, presents a very different aspect from that of the fractured surface of either spermaceti or wax candles. The latter, or the wax candle, exhibits regular concentric circles, or circular laminæ around the wick; the other, or the spermaceti candle, looks like a broken piece of camphor or a broken watery turnip; whereas the fractured surface of the Stearine arsenicated candles looks spungy, is easily rubbed into a white powder by the finger-nail, and, seen through a magnifying-glass, presents minute shining particles.

The presence of the arsenious acid, however, for immediate and practical purposes, may be detected, first by the garlic-like, smell, which is perceivable when the candle is extinguished, while part of the wick is red-hot; and secondly, by placing, for a quarter of an hour or twenty minutes, over a suspected candle, (the flame of which should be all the time perfectly steady,) a small bell-glass or shade, on the inside of which, if arsenic be present in the candle, a white powdery deposit will take place. This last experiment, however, is not of easy execution.

With respect to the *alliaceous* smell, every writer and experimentalist seems to have agreed upon its being an excellent popular test for warning people that arsenic is present. Your Committee, therefore, recommend, that it should be assumed, where it exists in candles, as a sufficient reason for at once discarding them. There are those who imagine, that if zinc were used in the Stearine candle, instead of arsenic, the smell, on extinguishing them, would be the same. In order to settle this question, your Committee, on two different occasions, made some direct experiments, by burning a wick in Stearine, in which white oxide of zinc had been abundantly mixed; but they could not perceive the smallest trace of the peculiar alliaceous, or garlic-like odour in question.

Dated the 8th of December, 1837.

Signed,
J. JOHNSON, M.D.
A. T. THOMSON, M.D.
CHARLES J. B. WILLIAMS, M.D.F.R.S.
WM. B. COSTELLO, M.D.
JAMES SCOTT, M.D.
R. PHILLIPS, F.R.S.&C.
GOLDING BIRD, F.L.S.
THOMAS EVERITT,
A. B. GRANVILLE, M.D.F.R.S. &C. (*Reporter*)."

In an Appendix the minutes of the different sittings of the Committee are regularly reported.

APPENDIX TO THE EIGHTH EDITION OF THE PHARMACOLOGIA, WITH SOME REMARKS ON VARIOUS CRITICISMS UPON THE LONDON PHARMACOPŒIA OF 1836. By *J. A. Paris*, M.D. Highley, 1838.

THIS Appendix consists of three parts—the *first*, a vindication of the College against its Pharmacopœia, critics—the *second*, a double list of the old and new names in the recent Pharmacopœia, with a table of new medicine—and *third* miscellaneous addenda, or remarks on a number of articles and compounds in the Pharmacopœia and Pharmacologia.

In the first part the College has found an able apologist, or rather advocate. That BODY has many enemies—some, perhaps, of its own making—and others who are not open and candid opponents of what they consider grievances or defects, but enemies who lie in wait, with the daily, or at least, annual prayer in their mouths,—"Oh that my enemy would write a book!" The College does not very frequently gratify these snarling critics; but when it does, there is instantly a hornet's nest broke open, and the stinging trade flourishes for six or more months, with wonderful vigour. Among the College censors (not the censors of the College) there are some who might well be called, "nimis acer et ultra;" who, not content with carping at certain preparations and directions in the Pharmacopœia, would annihilate it *in toto*, as a drag on the march of intellect. To these destructives the following arguments are pertinent—and, indeed, they are unanswerable.

"As to many of the Pharmacopœia reviewers, when we perceive the captious style, the uncalled-for censure, the scorn, the sneer, the reluctant admission of improvement, and the pertinacious adherence to refuted error,—every intelligent and candid reader will justly appreciate the spirit and motives of such critics. In one instance, the attack is opened with vituperations upon the order in council perfixed to the work, by which 'His Majesty does strictly require, charge, and command, all apothecaries and others' to obey its direction, &c. Why, in the name of common sense, let me ask, for what purpose is the Pharmacopœia issued, unless an obedience to its orders can be enforced? Uniformity in the compositon and strength of our medicines are its object and purpose; but, says the critic, 'it is a *drag-chain* upon science; every hour ushers in new improvements, which are applicable to all processes;' and he adds, 'instead of being encouraged to make discoveries, the English chemist is tied to the prosecution of state processes, which he is not allowed to improve:' and truly fortunate is it for the community, that such a check, such a patient '*drag-chain*,' has been mercifully provided for its safety. What would be the consequence, were every manufacturer, who fancied that he had invented a superior formula, allowed to adopt it? —to what a wild and dangerous spirit of speculation and empiricism should we be thus consigned! The physician could never calculate upon the effects of his remedies; for it is probable that no two laboratories would furnish the same article. Even in the page of the critic who advocates so preposterous a doctrine, we may discern traces of self-conceit, that would lead him, unless restrained by our *safety-drag*, to give a dangerous activity to the *arsenical solution*, by what he is pleased to consider an improved formula for its preparation. In many of those processes, however, which are more immediately the objects of the wholesale manufacturer, and where the article is readily tested as to purity and strength, he is not tied down by the Pharmacopœia to an invariable form of preparation, provided always that the product be what is required; and hence the introduction of a series of 'notes,' by which its purity may, as nearly as possible, be ascertained; but this measure of precaution did not supersede the necessity, or render less useful the introduction of formulæ in a work expressly composed for the instruction and guidance of the pharmaceutic chemist. But let us view the question in another point of view. In a system founded upon a division of labour, there is an implied condition between the different departments, that each shall fairly and honestly work with the other, for one common purpose, and to one common end. In the case before us, that purpose and that end is the welfare of the community. The medical men by whom the public are served, may be divided into two distinct classes,—those who prescribe remedies, and those who prepare them. In the former class may be included physicians and general practitioners; in the latter, manufacturing and dispensing chemists. Now let us inquire how these respective classes stand, in relation to the Pharmacopœia,—ever keeping in mind, that they are to act in union for the benefit of the public. As this question has been raised by our reviewer it is necessary that a few remarks be made upon it. He asks, 'for whose use is the Parmacopœia published,—is it for the use of the learned physician?' he answers, 'surely not; his accomplishments and opportunities of acquiring knowledge place him above such a source. Is it published for the benefit of the operating surgeon? No,—the lancet and the scalpel are his medicaments; and when he has to call in the assistance of pharmacy, his scientific resources place him in a condition similar to that of the physician: for whose use, then,' he inquires, 'is the Pharmacopœia designed, since it is neither required by the physician nor by the surgeon?—the truth is,' says he, 'it is published for the use of the general practitioner, and the chemist, and druggist; neither of whom can, in the reviewer's judgment, 'be expected to waste his leisure in studying a Latin Pharmacopœia.' All this appears to me perfect trash and nonsense. The general practitioner, unless he possess sufficient knowledge to understand the Pharmacopœia, is a person unworthy of being trusted by her Majesty's liege subjects and as to the druggist or chemist, whose sole business it is to dispense prescriptions, it is surely not too much to expect that he should be able to read them. But how does the question really stand? Certainly not as our critic represents it. The Pharmacopœia is obviously constructed for the physician, or prescribing practitioner; his knowledge, however 'extensive and transcendent,' does not render such a recognized standard the less necessary or convenient. It abridges his labour, without cramping his resources; for he is still at full liberty, should it so please him, to range over the whole creation in search of remedies. He, is, however, here presented with a list of the medicines which, under all ordinary circumstances, he can be supposed to require, and which he may combine and modify at his will and pleasure; while the dispenser, by being thus made acquainted with the simple and compound articles, which in the daily routine of his business he will be called upon to furnish, is better able, by promptitude as well as accuracy, to fulfil the intentions of his master. What a sacrifice of time, and what multiplied chances of error, does this system of mutual accommodation obviate! The critic who stands forward to arraign its expediency, may, for ought I know, possess all the learning so cynically assigned to the physician, but he can be no practitioner; and it may be shrewdly suspected, that he is better qualified to publish sarcasms than to write prescriptions."

To the truth and reasonableness of the foregoing observations, we think every candid mind must subscribe. Order, even with many imperfections, is preferable to anarchy; and, if we had no standard Pharmacopœia, to which the chemist is bound to adhere, there would no security for prescribers—no, not even for the general practitioner, who dispenses, but does not prepare his own medicines.

Many object to the Pharmacopœia being written in Latin. But while physicians prescribe in Latin, the Pharmacopœia ought to be written in that language. We hope it will always be in a dead language. There is already too much prying curiosity on the part of the patient, as to the names and properties of the ingredients. And the more he knows of these, the more doubt and distrust he has in the prescription, and the less efficacious it is likely to prove. Every one who knows human nature is aware of the fact—"Omne ignotum pro magnifico"—and no man has had much practice, especially among the better classes of society, who has not seen the most efficacious and appropriate remedies rendered a nullity by the prejudice of the patient, and the prejudice generally founded on some superficial knowledge of the medicine prescribed. On this account the general practitioner has a great advantage over the physician and surgeon; and it would be still greater, if the present system of making the whole charge to rest on the drugs, was ameliorated. On the Continent, where the prescriptions are generally (especially in France) written in the vernacular language, there is not, comparatively speaking, a proper confidence in the medicine; and too much importance is attached to diet and regimen.

Independently of this view of the case, we hope that Latin and Greek, but particularly the former, may always be considered indispensable in the medical student's education.

"I shall, therefore, only express, more in sorrow than in anger, a deep regret, that any writer who has at heart the interests and respectability of his profession, should seize upon every occasion to pander to the vulgar taste of obliterating whatever has the semblance of learning. It is the character of the mischievous goose *improbus anser*, to tear up by the root every thing it approaches, '*et morsu lædit et stercore.*'"

The nomenclature, or change of names of medicines in each edition of the Pharmacopœia, is more debateable ground. It certainly is attended with great inconvenience, and, we have no doubt, with many disastrous consequences, for some time after each issue of the work. Those practitioners who are above forty or fifty years, are unwilling to learn new names for old remedies, and change their language of prescription. Thus, when the term CALOMEL was thrown out, and Submurias Hydrargyri substituted, the College only changed one bad name for another, since the new name was subsequently changed for Hydrargyri Chloridum—and who can say that this will hold its ground many years. But this is not the worst. Between calomel and corrosive sublimate no mistakes could possibly happen from any similarity of names; but the Submurias and Oxymurias were often confounded, and fatal results occasionally happened. The resemblance in nomenclature is now still more close—H. Chloridum and Bichloridum.

But it may be fairly urged by the censors, that because chemical science is only *progressive*, nomenclature should not stand still. Every change in the *latter* indicates a step in advance of the *former*. And if old men will not go to school again, they can jog on with old names during their day, while the young are sure to adopt the new nomenclature.

The third part gives us a complete list of the new names, and the old ones changed. We think that the *double* list was hardly necessary—namely, first the new and old, and then the old and new. This plan, however, facilitates reference.

The addenda contains various notes and remarks, rendered necessary by the lapse of time since the last edition of the Pharmacologia was printed. The following specimen of these addenda will be sufficient in this place:

"CREOSOTON.

"When pure, it exists as a limpid colourless liquid, having a sp. gr. of 1·037. It has a hot pungent taste, and a peculiar empyreumatic odour. It boils at 397°, and does not congeal at—50°. It is soluble in 80 parts of water, and in every proportion of alcohol, æther, and acetic acid. It appears to be a compound of oxygen, hydrogen, and carbon, in unknown proportions, and hence is described, in the Materia Medica, as an *Oxy-Hydro-Carburet.* It derives its name from its property of preserving animal matter; and the antiseptic effect of smoke-drying hams, and other articles, depends, probably, upon its agency. By the believers in the virtues of Tar-water, if such there be, this article will be received as an elegant and refined concentration of that remedy. It has been happily observed, that science progresses in a spiral; for although in our revolutions, we may appear to be returning to the point from which we started, we are in truth always advancing. Creosote has been stated to possess singular powers in arresting vomiting; but I must confess, that in all the trials I have made with it, I have met with nothing but disappointment. Like an essential oil, it is stimulant, and may therefore possibly prove useful in certain gastric affections. DOSE, *m.* v—xv. Externally, it has been applied in cases of Porrigo, and other cutaneous affections, (*Unguentum Creosoti*), and also as a lotion to foul and indolent ulcers."

To those who hold the last Edition of the PHARMACOLOGIA, (and they must be numerous,) this Appendix will be welcome, as it may easily be bound up with the volume. It is not undeserving of attention also from the critics who have so vehemently assailed the Editors of the Pharmacopœia.

A PRACTICAL TREATISE ON THE CURATIVE EFFECTS OF SIMPLE AND MEDICATED VAPOUR APPLIED LOCALLY, &c. &c. By *James Wilson*, M.D. Churchill, 1838.

THE Author of this unpretending little work was a pupil of Dr. Macartney, of Dublin, many years ago, and freely acknowledges that his attention was directed to the above subject by the chemical lectures and precepts of his quondam master. The Author has since put these receipts into practice, and now communicates the results to the public.

The apparatus used by our author are sufficiently simple—consisting of a vessel in which the vapour is generated—a tube to convey it—and a suitable contrivance adapted to receive it and retain it round the affected part. This apparatus Dr. Wilson offers to shew freely to any of his professional brethren, in Sackville-street.

"The only long standing and well known instances of the local application of steam, are fomentation and poultice. Even of these, it is only a few who consider their action in a true light,—which is, a medium for the application of warmth and moisture, or vapour, to the affected part. Objections, however, arise to these excellent remedies, when compared with the immediate application of steam unmixed with solid matter. In the first place, the weight of the fomenting flannel, or of the poultice, is objectionable, particularly when an abraided, ulcerated, or exceedingly sensitive part is involved. I have seen a white-swelling of the knee, and a cancerous ulcer, in such an exquisite state of sensibility as to render the weight of a poultice nearly intolerable. In the next place, it is impossible to make the application of either of these means *uniform and continuous*. The flannels grow cold, and then are changed for hotter; thus marring the very end proposed, which is to act gently, soothingly, and therefore with an *uniform* agent, on the sensibility of the part. A poultice is in the same predicament, never retaining the same degree of heat for a long time together; its moisture too, varies,—for on an inflamed surface it rapidly becomes dry, and a source of pain. In the third place, the difficulty of applying medicinal substances in fomentation and poultice is considerable, as they are apt to act too violently, or to be altogether useless, according to the temperature of the water or poultice. Again, composed, as a poultice usually is, of some farinaceous substance, it is liable to undergo chemical changes, and in addition to its commixture with the secretions of the part to which it is applied,—an ulcer, for instance,—to become sour, and thus to prove irritating where soothing is required. That such is the fact, the experience of any surgeon must witness. For myself, in former years, I could never account for the slow, unsatisfactory operation of a remedy, the principle of which was good, until upon reflection the advantages above recited rose in strange contrast with the advantages set forward by Professor Macartney, of the same principle in a different mode and form. That form was what Dr. Macartney called his water dressing, and watery vapour, of various degrees of temperature,—the beneficial, and, I may add, extraordinary effect of which I have now verified in such a considerable number of cases as to induce me to reject the employment of fomentations and poultices, and substitute the above in all instances where it is practicable.

"In order to make it so in the great majority of local disorders, I have contrived variously shaped envelopes, composed of waterprooof substance, which being applied to the head, the shoulder, the breasts, knees, feet, genitals, or any other affected part, receive vapour of higher or lower temperature, and enclose it continuously over the surface. Of the facility of the application of this remedy, and its wonderfully sedative influence on the morbid sensibility of a part, none can accurately judge but those who have beheld it in operation. I have seen inveterate rheumatism of the knees allayed, as if by magic, by four or five steamings,—the skin of the joint appearing after each application as if it had been soaked in hot water for days, whereas the application had continued for an hour and a half only. In long-standing ulcers, particularly of a painful character, it both changes the morbid secretions, and diminishes the excessive sensibility."

The temperature of the vapour must be regulated according to the common and organic sensibility of the part. Dr. W. has contrivances for impregnating the vapour with medicinal substances. The following catalogue is presented by the Author, according to the scale of sensibility.

"1. Local diseases in which the sensibility of the part is morbidly exalted:

Erysipelas.
Piles.
Branny Scall (Porrigo furfurans.)
Lupine Scall (P. lupinosa.)
Honeycomb Scall (P. favosa.)
Scalp Ringworm (P. scutulata.)
Irritable and sloughing Ulcer.
Cancerous Ulcer.
Acute gouty inflammation of the feet and hands.
Whitlow.

2. Local diseases in which the sensibility of the part is deficient:
Bald scalled head, (Porrigo decalvans.)
Indolent Ulcer.

3. Local diseases in which the sensibility of the part is deficient externally, in consequence of its augmentation internally:
White-swelling of the knee and elbow.
Chronic synovial inflammation of the knee.
Chronic rheumatism of the knee, elbow, shoulder, and ankles.
Inflammation of the prostrate gland and neck of the bladder.
Gonorrhœa."

On the foregoing list Dr. W. comments seriatim, and lays down practical rules for the application of vapour in each individual case. For all these we must refer to the volume itself, which is sensibly written and completely free from the slightest tincture of charlatannerie.

ELEMENTS OF ANATOMY. By *Jones Quain*, M. D. Fourth Edition, Revised and Enlarged. Illustrated with Steel Plates, and numerous Engravings on Wood. Parts I. II. and III. Price 5s. each.

DR. QUAIN'S Work on Descriptive Anatomy has been for some years before the profession. Its success has been considerable, yet not greater than it merits. We have, on former occasions, pointed out the principal features that distinguish it, and the slight defects that appear in it. It presents a good epitome of the existing state of anatomical knowledge both on the Continent and in this Country, and Dr. Quain judiciously improves each succeeding edition, by transferring to it all that has been done in the way of anatomical discovery since the publication of the preceding one.

The present edition is particularly characterized by the wood-cut illustrations that appear upon its pages. Their number is not inconsiderable. In 698 pages of letter-press, we find 150 wood-cuts. There can be no question of the great assistance which they give to students, particularly to that poorer portion who are not enabled to purchase systems of anatomical plates.

The style of Dr. Quain is simple, clear, concise; and he generally avoids that indescribable sort of composition which prevails so much in our medical cyclopædiæ and elementary works, and makes us doubt while we peruse it, whether it is really intended for English. He has had the good sense to abbreviate the details of unimportant particulars, which we find swollen to so unconscionable a length in the works of Cloquet, and especially of Bourgery and Cruveilhier.

On the whole, these Elements of Anatomy are eminently calculated to be popular with students, and, indeed, they are so.

ELEMENTS OF PHYSIOLOGY. By *J. Müller*, M. D., Professor of Anatomy and Physiology in the University of Berlin, &c. Translated from the German, with Notes by *William Baley*, M. D., &c. Illustrated with Steel Plates, and numerous Wood Engravings. Part II., containing Secretion, Digestion, Functions of the Glands without Efferent Ducts, and Excretion. Taylor and Walton, London. Price 3s. 6d.

IN a Notice to this Part, we are informed, that, "since the publication of Part I. of this Translation, a new edition of that portion of the original has appeared in Germany, the most important changes in which relate to the subject of Respiration. In order to give the purchasers of the present Work the advantage to be derived from these changes, the pages from 321 to 334 have been re-translated and introduced at the end of the present Number. The same pages in Part I. should therefore be cancelled when the book is bound, and these substituted."

This, at all events, prove the anxiety of the Translator to do all the justice in his power, both to the author and the English reader.

For reasons which we need not state at present, we shall merely recommend this work most strongly to our readers. We shall not attempt, in *this* Number of our Journal, to present any account of it. We *do*, however, recommend it very strongly, and we have no hesitation in saying that it will supersede all other works as a text-book for lecturers, and one of reference for students. It steers a middle course between the superficial brevity of many of our own works, and the pleonastic and metaphysical jargon of Burdach.

Part III. will be published in the course of May. The price of the work is guaranteed not to exceed £1. 7s.

MEDICINE AND SURGERY ONE INDUCTIVE SCIENCE; BEING AN ATTEMPT TO IMPROVE ITS STUDY AND PRACTICE, ON A PLAN IN CLOSER ALLIANCE WITH INDUCTIVE PHILOSOPHY, AND OFFERING, AS FIRST FRUITS, THE LAW OF INFLAMMATION; ADDRESSED PARTICULARLY TO THE MEDICAL STUDENTS AND THE PROFESSION, BUT EASY AND INTELLIGIBLE TO THE PUBLIC ALSO: THE WHOLE BEING THE INTRODUCTION AND FIRST PART OF A SYSTEM OF SURGERY. By *George Macilwain*, Fellow of the Royal Medical and Chirugical Societies, Surgeon to the Finsbury Dispensary Consulting Surgeon to the St. Ann's Society, &c. London, S. Highley. 1838.

THIS Work consists of 551 closely printed pages. The author informs us that it is the "Introduction and First Part of a System of Surgery." We fear that that System will be voluminous, too voluminous indeed for the mass of superficial readers and thinkers of this day. Yet Mr. Macilwain has not laboured to amplify but to condense his book.

"The size of the volume," he says, "as in manuscript, has been considerably reduced,—1st, by the omission of authorities, which would have increased its size and expense, and have made a parade of learning without adding to its utility; 2ndly, by reducing the description of the body, originally intended to have been given, to a very few general remarks, for which the object must be the apology; 3dly, I have not scrupled to omit, in aid of the reduction in size, many arguments and illustrations in support of the law of inflammation. Nothing would have induced me to do this but the following considerations:—I am much more desirous of exciting reflection, than of at once carrying conviction; and the facts of arguments omitted will, from time to time, appear in connexion with different diseases. I am not in the least degree anxious that my views should be hastily adopted: nothing is more injurious than the reception of propositions without examination."

Mr. Macilwain, it will be noticed from the title-page, addresses his book to three distinct classes of readers—the profession—those who are entering it—and the public. He laments the difficulty of making what he writes both intelligible and adapted for all. We agree with him in thinking this impossible.

The merits and the defects of the work lie in its generalizations. They are very broad. We will not pretend to have examined them closely. It would not be fair to Mr. Macilwain to discuss them, unless we discussed them fully. It would not be fair to our reader to do that. Without, then, meaning any disrespect to Mr. Macilwain, we fear that his work will prove too voluminous and too general either for reviewers or for any large class of readers. We commend it to the philosophical few, possessed of leisure and of inclination for the examination of the inductive reasoning which its author offers. His object is a good one—to render medical reasoning more exact.

THE PHILOSOPHY OF THE EYE; BEING A FAMILIAR EXPOSITION OF ITS MECHANISM, AND OF THE PHENOMENA OF VISION, WITH A VIEW TO THE EVIDENCE OF DESIGN. By *John Walker*, Author of "The Principals of Ophthalmic Surgery," Lecturer on the Eye in the Manchester Royal School of Anatomy and Medicine, and one of the Surgical Officers of the Manchester Eye Institution, &c., with numerous Illustrations. London, Charles Knight. 1838.

THE object of this work is briefly but sufficiently explained by its Author in his Preface.

"Various successful attempts," he says, "have been made, during the last few years, to popularize a knowledge of the structure and functions of the animal body, particularly by Sir Charles Bell, Dr. Roget, and Dr. Southwood Smith.

Among the many portions of the subject that have attracted the notice of these eminent men, that of all others the most interesting—the Eye—can scarcely be regarded as have met with the degree of attention to which its admitted claims would seem to have entitled it. Hitherto there has been no separate treatise to which the general reader could refer for an ample and satisfactory account of this organ; although surely, if there be any one in particular that deserves to be isolated and considered apart from the other animal organs, it is that which contributes to vision, the noblest of the senses.

It is the special object of the present undertaking, then, to supply the presumed want of a separate and familiar treatise on the mechanism and functions of the visual apparatus, including the Eye and its appendages.

The Author has felt it impossible to perform the task which he had set himself without frequent references to the evidence of design, so abundantly furnished by the Eye. However, he has scarcely allowed himself to do more than incidentally touch upon this most interesting topic,—a topic which has been so ably discussed, and indeed almost exhausted, by the learned and accomplished writers of the Bridgewater and other similar Treatises."

The descriptions are sufficiently illustrated by wood-cuts, and the work is altogether well got up, and well adapted to serve the useful objects of the Author. Being addressed to the Public, it is not adapted for more paritcular notice.

A TREATISE ON RUPTURES. By *William Lawrence*, F. R. S., Surgeon Extraordinary to the Queen, &c. &c. &c. 8vo. The Fifth Edition. Pp. 632. Churchill, 1838.

THE present edition has been much enlarged, and, we understand, in a great measure re-written. It is, we think, a pity, that, in issuing new editions, authors do not make a point stating what *is* new. It is hard on a reviewer to be compelled to compare two bulky volumes, in order that he may distinguish what is altered or added.

The work of Mr. Lawrence is so justly deemed a standard one, that it would be idle to dwell upon its merits. All that we need do is to anounce this new edition, and to recommend those who have no other to purchase it.

ELEMENTS OF CHEMISTRY, INCLUDING THE RECENT DISCOVERIES AND DOCTRINES OF THE SCIENCE. By the late *Edward Turner*, M. D. Sixth Edition, enlarged and revised by Justus Liebig, Professor of Chemistry in the University of Giessen, and William G. Turner. Part II. Taylor and Walton, 1837.

THIS Part is devoted to the Metals, and embraces Crystallization, and the consideration of the class of Salts.

We noticed the first part of this, decidedly the best work for a student, on its first appearance, and we are glad to announce the appearance of the second. There has been so much delay in the publication of "Parts" of works, that purchasers have naturally become suspicious.

We cordially recommend our readers to possess themselves of this excellent manual of chemistry, and we think they may lay out their money on the Parts already published, in the full assurance that the future ones will appear in reasonable time.

RECENT WORKS ON THE PRACTICE OF SURGERY.

I. INSTITUTES OF SURGERY: ARRANGED IN THE ORDER OF THE LECTURES DELIVERED IN THE UNIVERSITY OF EDINBURGH. By *Sir Charles Bell*, F. R. SS. L. & E.; Professor of Surgery in the University of Edinburgh; late Professor of Anatomy and Turnery to the College of Surgeons of London; and Surgeon of the Middlesex Hospital; Consulting Surgeon of the Royal Infirmary of Edinburgh; Honorary M.D. of Gottingen, &c. &c. In 2 vols. *Edinburgh*, A. & C. Black; *London*, Longman, & Co.

II. PRACTICAL SURGERY. With One Hundred and Twenty Engravings on Wood. By *Robert Liston*, Surgeon. *London*, John Churchill; H. Renshaw.

HERE are works by two Surgeons of eminence and talent in their respective ways. It would be an injustice to both to limit our account of their works to so brief a notice as this: nor shall we do so. We merely introduce the works to our readers at present; in our next number, we shall offer a more full account of them.

The preface of Sir Charles Bell deserves to be read, we may say studied, at this day. In a few sentences, it attacks three vices of the times—the affectation of despising all ordinary routes to knowledge—the practice of denouncing the mistakes of others, as if we really made none ourselves—and the writing *for* practice, not *from* it. Let Sir Charles Bell speak, and our readers listen.

"The study of Surgery, an art unexampled in the weight of responsibility which it imposes, must be prosecuted in more than one way,—at lectures, by attendance on the hospltal, and by reading. There must be a book of ready reference. That book to be useful must recall to the readers's recollection the demonstrations and the reasonings which he has heard at lectures; for no book can be written which is sufficient for the practice of the profession: And it should state correctly, however shortly, the rule which are to guide the judgment and the hand of the practitioner, in the moment in which he is called upon to the performance of his high duties.

The book should also contain references to some of the best authors, with a recommendation of those which ought to be read. But this is, above all, important that such a work should contain so much of criticism at least, as may guard the reader against the bad influence of writers who have not known the hazards and difficulties of practice; who make unhesitating and bold assertions, where good and experienced men hesitate and are afraid: who write rather to obtain a name (an object not altogether to be condemned) than to guard their successors against the errors which they have witnessed, or to detail the means by which they themselves have happily succeeded."

The Preface of Mr. Liston is deprecatory, probably to an unnecessary extent, and pleasant. It corrects no vices, nor does it heed them. He insists much upon the wood-cuts, a mode of illustration which has grown fashionable, and, when judiciously employed, is useful.

CLINICAL REVIEW.

REPORT OF THE KENT AND CANTERBURY HOSPITAL.

FEVER FROM PROLONGED LACTATION.—(*Continued.*)

The symptoms attendant upon the incipient, or latent, stage of this disease are the same as those described when treating of chlorotic fever; and are, in fact, common to the undeveloped stage of all fevers whatsoever. They are such as result from an enfeebled state of the system (however produced), and from a consequently imperfect performance of the several functions.

When the disease is fully developed, the following set of symptoms present themselves.

Evident loss of flesh, great prostration of strength; depression of spirits; frequent chills, particularly towards evening; countenance pale; eyes heavy, and sight occasionally dim; head giddy and painful, (sometimes vertex and occiput are the seat of pain, though it more frequently affects the left temple); respiration hurried; heart irregular and tumultuous in its action; pain in epigastrium, aggravated generally after food, and accompanied with a sense of sinking, and extreme faintness; appetite impaired; tongue thinly furred; bowels costive; pulse seldom under 90.

In such a state of the system, hysteria seldom fails to show itself, particularly if the patient is constitutionally predisposed to its attacks.

The foregoing symptoms bear, throughout, a striking general resemblance to those of chlorotic fever; to which, indeed, this disease is in its nature very closely allied. The skin, however, is seldom so much altered from its natural appearance; and there is, I have remarked, more epigastric pain and weakness than in this latter complaint.

The period of lactation at which the symptoms may first shew themselves, is very various. I have seen them occur at all periods, from the third to the sixteenth month. In proportion as the patients are naturally feeble of constitution, and ill-fed, does the disease display itself early. It is, as might be expected, most common in the lowest rank of life. But delicate mothers, in all grades of society, are liable to it.

The catamenia sometimes appear during its existence; but this is by no means what ordinarily happens. Generally there is more or less leucorrhœal discharge.

The pain in the *left* temple is sometimes so severe as to throw into the background (with the patient at least) all the other symptoms. It is described as a consentrated agonizing sensation with a feeling as if there were some violent pressure from within I have met with a very few cases in which the *right* temple was the one thus affected.

In this, as in most of the other diseases of females attended with debility, there is generally pain in the left side, and (what is often mentioned as such) pain in the left iliac region; the latter produced, no doubt, by flatulent distention of the sigmoid flexture of the colon. It proves occasionally a very troublesome symptom.

Another very common seat of pain is the right hypochondriac region, from which in general the pain shoots backwards to the inferior angle of the scapula. But this is nothing more than a symptom of disordered digestion, as carried on in the upper part of the intestinal canal, (I dare almost venture to specify the duodenum) and is mentioned only as constituting a frequent complication in the disease of which we here treat.

When the disease attacks a mother in whose constitution the germs of tubercles exist, there is great danger of their rapid development. In such a case, it often occurs at a comparatively early period after the commencement of lactation.

Baillou noticed this disease; and, after him, Ramazzini, who mentions some of its leading symptoms. Dr. Marshall Hall has described it accurately. I had been aware of its existence, and had written a description of it, long before I was acquainted with the writings of these authors. The present description is given solely from my own observation. In saying this, however, I would not be understood as presuming on my own accuracy. The main object of these pages is to record the results of my individual experience, not to compile the statements and opinions of others. This would be only to add to the dead weight which already oppresses medical literature. A very few atoms of knowledge, *added to each other, times without number*, have produced the greater part of that enormous mass of bibliography under which our science at present groans and is stifled.

But this digression leads me to another, on a subject equally correlative to the main design of my Report. I mean the introduction of illustrative and confirmatory inferences, derived from my general experience, whether in public or in private practice. To confine my remarks strictly to those cases the details of which are given, would render the task in which I am engaged an exceedingly uninteresting and profitless one. The great end of science is to arrive at a knowledge of ultimate general laws; and he who would make any progress towards its attainment, must extend the field of his observations as widely as possible. He must see objects, however, with his own eyes, and not with the eyes of another; for without a previous knowledge of some common principle by which to determine their suitable collocation, no power of digesting, arranging, and condensing the observations of other men, can enable the mind to take at once a comprehensive and an accurate survey of them. A general law may be *proved* by the observations of others; it must be *discovered* by one's own.

But to return to the disease in question. Having stated my opinion of its *general* nature, and described its essential and complicating symptoms, I come now to consider its treatment. This may be very briefly discussed. Pure air, mild aperients, gentle tonics, blisters applied to the epigastrium, or, if need be, to the præcordial region—these will be found sufficient for the cure of the disease, *provided the child be at once and altogether* weaned.* Without this, all remedies must prove unavailing.

It may seem scarcely necessary to prohibit venesection in this disease, yet I have more than once seen it practised; the severe palpitation, accompanied with a hysterical sense of suffocation, misleading the practitioner into a belief that thoracic inflammation existed. Even leeching, I think, had better be avoided, blisters always answering the purpose better. This remark holds good with regard to all atonic congestions whatsoever, in which blisters not only relieve vascular fulness, but stimulate also to a healthier action.

When the pain in the left temple is very distressing, the external application of half a grain of morphia scarcely ever fails to relieve it. In a few cases I have known it to occur periodically, and then the exhibition of five grains of quinine three times daily, speedily removed it. In other cases, an emetic has proved highly serviceable, preventing altogether its periodical recurrence. I mention these facts chiefly with a view to shew that I by no means recommend an unvarying line of treatment. To do so with reference to any particular disease would be foolish enough; as regards a mere symptom, it would be the very height of absurdity.

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* Mothers in the lower ranks of life, when ordered to wean their children, often do so only *in part!* They think that by continuing to nurse, they shall prevent another conception. This notion is ridiculed by modern obstetrical writers; but my own observation would lead me to believe that it has *some* foundation in truth. Yet in both the cases which I am about to detail, menstruation had returned, although the patients were still giving suck.

I shall now proceed to detail briefly two of the cases. The third patient not attending regularly was discharged soon after her admission.

A. B., æt. 28, admitted an out-patient August 26th.

Symptoms.—Pain in occiput, also in back and loins; respiration hurried; impulse and sound of heart increased; ankles swelled towards evening; bowels slow; catamenia during last three months regular but scanty. Is suckling a child 15 months old.

She was ordered to wean the child, and had prescribed for her some mild aperient pills, together with a mixture containing ammonia. Under this simple treatment she recovered rapidly, and was discharged, cured, on the 9th of September.

The other case was much more tedious, and I had good reason to believe that the patient did not wholly wean her child until a late period of her attendance. In the very outset, she showed great reluctance to the step, and assigned as a reason, the notion stated in note in the previous page.

The case was as follows:

H. P., æt. 28, admitted an out-patient, September 16th.

Symptoms.—Great general debility; countenance pale and distressed; palpitation of heart; pain in epigastrium and lower part of the sternum, extending backwards to between scapula; rigors every afternoon between 5 and 6 o'clock; pulse 90, feeble; tongue clean; bowels regular.

Is suckling a child, twelve months old, and menstruated last week.

Treatment.—Blisters to the epigastrium, mild aperients, a light bitter infusion, and, at a later period, quinine in five-grain doses.

Under the use of these remedies the symptoms seemed slightly to abate; but the patient did not gather strength, and there were soon added to the foregoing symptoms, heavy dragging pains in lower part of the abdomen, globus, hysterical swoonings, &c.; all of which, in a more or less severe form, continued until the middle of December, when, without any material change in the treatment, the patient began to recover, and in little more than a fortnight was completely restored to health. I have no doubt that up to the period when the improvement commenced, she had still continued to nurse her child.

GASTRO-ENTERIC FEVER.

I use this as a specific term, including two varieties, namely *gastro-enteritis*, and *mucous fever*; the former of which presents itself in a *continued*, the latter in a *remittent* form. I believe that the difference between them arises from the existence in the former of inflammation, accompanied, or not, with ulceration of the mucous follicles—constituting the *dothinterite* of Bretonneau, the *exantheme intestinal* of Andral and other French authors. By the majority of French pathologists these two distinct types of fever are confounded, whence has originated serious error, both in doctrine and in practice; while none of the writers who have controverted their views, have, (as far as I am aware) drawn the line of distinction so clearly as they might have done. That the distinction here insisted on, exists in nature, cannot be doubted; and it must be regarded more than it has hitherto been, if we would have less confused descriptions, and less (apparently) discordant plans of treatment.

Gastro-enteric fever is something more than simple fever, complicated in its progress with gastro-enteric derangement. It is fever presenting *at its very outset* (that is in its first *visible* stage) disorder of the stomach and bowels much graver than is ever witnessed in simple fever. The nervous system consequently sympathizes more strongly than in this latter, and the whole disease is, as every experienced practitioner knows, much more serious in its nature.

These then are the points of difference on which I would ground my distinction—the earlier occurrence,* and graver nature of the gastro-enteric disorder, and the more marked sympathy of the nervous system, particularly over that part of it which presides over the functions of relation.

I speak here more particularly of the *continued* form of gastric-enteric fever, that to which I have assigned the name *gastro-enteritis*, which is always attended with inflammatory symptoms and more or less delirium. and which, like many other acute diseases, has a strong tendency to terminate critically.

The *remittent* form, or *mucous fever*, (a name already given to it by several authors), resembles in many of its features the remittent fever of children. It presents one or more daily paroxysms, which occur at irregular periods; is attended at its very outset with considerable derangement of the stomach and bowels, with great prostration of strength, and marked depression of spirits, but not delirium. There is pain of head, often occipital; a sense of weariness over the whole muscular system, particularly that part of it which is most exercised, namely, the extensor muscles; the sleep is disturbed by frightful or annoying dreams; the appetite is impaired; the tongue, sometimes uniformly red but more generally quite pale, is covered with a very thin, purely white film, and seems made up, as it were, of very minute granules. The bowels are irregularly costive, the motions lumpy and containing sometimes slime, emit a peculiarly disagreeable animal odour. The urine is sometimes scanty, and high-coloured; often it is very abundant and limpid, as in hysterical patients. The epigastrium tender and swollen, is the seat of pain aggravated after taking even the blandest food. Often it feels as if some hard indigestible substance were contained in the stomach. Occasionally there is a sense of vacuity, as though all the viscera were wanting. This is always accompanied with a sense of sinking, and of great weakness. There is almost invariably troublesome cough, seldom attended with much expectoration, and always strikingly relieved by a blister to the epigastrium. The pulse is either quick and sharp, or quick, soft, and feeble.

As the disease advances, the patient becomes emaciated; the countenance careworn; the sides of the nose, the temples, and the region of the parotid glands, of a deep yellow tinge; and the mucous membrane of the nostrils covered with incrustations, beneath which ulcerations often form. The skin dry, and deprived of its naturally clear colour, presents an eruption of mingled papulæ and pustules, which appear on different parts of the body in succession, and terminate generally in very minute scales. In some patients the cutaneous eruption exists during every stage of the disease.

Mucous fever, though very protracted in its duration, for the most part terminates favorably. When, however, a fatal termination is about to take place, the fever invariably becomes *continued*, and gives rise to increased distress of the organs of digestion—to vomiting, diarrhœa, meteorism, &c.; also to heat of skin, suffused watery eyes, low delirium, stupor, diminished organic sensibility, (as evidenced by distension of the bladder, slow respiration, &c.) and, finally, to complete loss of power and tone, occasioning passive (I prefer this term to involuntary) evacuations. In every case thus terminating, I have found the intestinal follicles either in a pustular state surrounded with red bright bases, or more or less advanced in the process of ulceration.

Sometimes mucous fever proves fatal by giving rise to inflammation (apparently subacute, yet very rapid in its progress) of one or more of the serous membranes; while occasionally the immediate cause of death is a peculiar species of angina, over which no remedies possess any effectual control, and which carries off the patient generally on the third day. The fauces during life are seen to be swollen, vividly inflamed, and covered partially with muco-albuminous exudation. After death, the inflammation is found to have extended along the lining membrane of the proper air-passages, into the most minute of the visible bronchial ramifications.

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* The mere nausea attendant upon the development of simple fever, can scarcely be regarded as an objection to this statement. It is, in general, a very transient symptom, dependent upon a deranged state of the nervous system.

With regard to all the circumstances mentioned in these last two paragraphs, a striking resemblance exists between mucous fever, and the remittent fever of children.

The foregoing description of mucous fever is derived from an attentive observation of it during the space of five years, among a class of people who are particularly liable to be affected with it—I mean persons employed at the stocking or lace-frame, who work generally from twelve to fifteen hours daily, and are at the same time both ill-fed and ill-clothed In such patients, I have known it often to exist for several months together, all the remedial measures that could be thought of serving merely to alleviate the symptoms. In localities where any source of malaria existed, the disease prevailed more generally, was very apt to return after having been temporarily cured, and not unfrequently, *as the patient's strength increased under the use of tonics*, put on a distinctly intermittent type. But it existed in many places in which no probable source of malaria could be detected, and in such cases, its production could be attributed to nothing else than the combined influence of poor diet, and undue confinement in the exercise of a sedentary employment—causes very well caculated to weaken the organic powers. From the enumeration of symytoms, it must be evident how much the digestive organs are implicated; and it is a well-known fact, that almost all abdominal diseases (including even those of the peritoneum) have a strong tendency to remissions and exacerbations.

In many of the patients, worms formed a very troublesome complication, the *ascaris lumbricoides* existing in some, and the *a. vermicularis* in others. It very rarely happened that both these species presented themselves in the same patient. One of the remedies found most useful in the cure of the constitutional disease, was the *liquor arsenicalis;* and this often (but not always) acted as a poison on the worms, which were, in consequence, discharged dead. I could never discover why the medicine, while it exerted such an influence in some cases, failed to do so others.

Fistula in ano also was not an unfrequent complication, and I remarked that, of the persons thus affected, a much smaller portion had tubercles in the lungs, than we usually see to be the case with fistulous patients not labouring under this form of fever. It would hence appear that the fever itself gave rise to the fistula, much in the same way that the tubercular diathesis ordinarily does.

To return to my hospital cases. I admitted four cases of gastro-enteric fever, all of them of the continued type. Of the subjects of them three were inpatients. In the fourth case, the symptoms were unusually mild, and the patient, being the mother of a family, and unwilling to come into the hospital, was seen a few times at her own house.

I shall confine myself to a detail of two of these cases.

M. C. a married woman, æt. 53, admitted Dec. 26th.

Symptoms.—Dull aching pain of head; countenance anxious; eyes suffused; great prostration of strength; pain in epigastrium and in arch of colon; urgent nausea and vomitting; diarrhœa, stools being pale, and of a curdy appearance; tongue morbidly red, furred in stripes. Pulse 116, feeble.

Illness had commenced three weeks before admission, and was attributed to anxiety of mind. On enquiring into her circumstances, I found that her diet had been not only poor, but scanty.

Blisters were applied to the epigastrium and abdomen, mild alterative aperients were occasionally administered, and, as soon as the stomach and bowels were brought into a less irritable state, the patient was put upon tonics with a nutritious unstimulating diet. Under this treatment she recovered rapidly, and was discharged cured, on the 24th of January.

CASE 2. E. T. blacksmith, æt 20, admitted February 21st.

Symptoms.—Manner sullen, with a marked air of timidity; countenance very anxious; features sharp; eyes slightly suffused; skin hot; intellect confused; epigastric and right hypochondriac regions tense and tender; bowels slow; tongue very red, furred at root and in centre; pulse 125, feeble; sleep said to be natural.

Eighth dorsal vertebra is very prominent and tender, and spine above has a marked lateral curvature to right side.

Has been out of health for ten months past, but present illness began five weeks ago. A fortnight since he was admitted as an out-patient, labouring under symptoms very similar to those just described, only much less severe.

An ounce of castor-oil was ordered to be taken the morning after admission; and from this period till the 9th of March, the treatment consisted of leeches to the back; small and frequently repeated doses of castor-oil; tepid baths; blisters and leeches to the epigastrium, &c.

March 9th. The breathing to-day being a little hurried, and the chest in consequence examined, right side of thorax is found dull on percussion except above the mamma anteriorly, where respiratory murmur is accompanied with a sonorous râle. Posteriorly (where percussion is dullest) respiratory murmur is not audible, except during a forced inspiration, and then it is heard accompanied with a most crepitous râle. This side of the chest measures very nearly an inch more than left,* and intercostal spaces are almost on a level with ribs. There is neither cough nor expectoration.

Emplastrum lyttæ amplum lateri dextro adhibeatur.
℞. Hydrarg. submur. gr. iij.
Pulv. opii. gr. ss.
Ext. hyoscy. q. s. fiat pilula nocte maneque sumenda.

Bowels to be kept open regularly by small doses of caster-oil.

13th. Respiratory murmur over right side of thorax more audible; crepitous râle more distinct. Since yesterday has expectorated small ragged masses of dense purulent matter; but save while getting rid of these, *he does not cough, nor has he at any time pain in chest.* Urine high-coloured, with a copious branny deposit, and at bottom a deep pink tinge; bowels freely opened by oil; tongue a little brown in centre; pulse 105, very feeble.

C. C. c̄ ferro lateri dextro adhibeantur, et detrahatur sanguis and ℥viij.

March 14th. Sumat pilulas ter de die.
Hirudines xij. lateri affecto.

15th. A good night after leeches. Respiration free; cough not urgent; expectoration rather more abundant, similar in character, but with a few minute speaks of blood enveloped in the small purulent masses. Bowels relaxed, and the seat of griping pains; urine less high coloured; tongue furred; pulse 100, very feeble.

Ext. opii. gr. ij. h. s. Persistat in usu calomelanos et opii.

16th. Emp. lyttæ amplum inter scapulas.
Extract. opii. gr. ij. h. s.

17th. Slept well notwithstanding blister. Lay the greater part of night on left side, which previously he had not been able to do. Skin perspires freely; tongue moist; pulse 110, soft; urine more abundant, but no deposit; bowels slow.

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* The right side of the thorox *in its natural state* very generally measures from an eigth to a quarter of an inch more than the left. This I have ascertained by nearly two hundred comparative admeasurements.

Ext. opii. gr˙ ij. h. s.
Ol. ricini ℥ss. primo mane, et repetatur meridie si opus.

18th. Slept 8 hours; tongue moist, furred in centre, red at edges; papillæ elevated; mouth slightly affected with mercurial; one copious evacuation of a bright yellow colour, from oil; pulse 108; blisters discharge freely.

Respiratory murmur less audible over affected side of thorax; anteriorly it is heard only immediately under clavicle.

Omittantur *pro tempore* calomel et opium.
Extract. opii. gr. ij. h. s.
Emp. lyttæ infra claviculam dextram.
Ol. ricini cras mane.

March 19th. Ext. opii. gr. ij. h. s.
Ol. ricini cras mane.
20th. Emp. lyttæ inter scapulas.
℞. Pulv. opii. gr. ij.
Hyd. submur. gr. iij.
Confect. q. s. f. pilul. singulis noctibus h. s. sumenda.

22nd. Passed a good night: Countenance much improved; tongue clean; pulse 94; bowels open. Chest sounds clearer on percussion; respiratory murmur more audible, and no longer accompanied with crepitous rále.

24th. Percussion clear over a larger space superiorly; pulse 96, sharp; mouth now decidedly affected; tongue furred, papillæ elevated; one figured stool of a light colour, streaked with green; urine high-coloured.

25th. Respiration hurried; right cheek marked with a circumscribed flush; bowels open during the night; tongue furred; pulse 110; no sediment from urine.

Ext. opii. gr. ij. h: s.
26th. Ext. opii. gr. ij. h. s.
Ol. ricini ℥ss. primo mane, iterumque meridie si opus.

March 27. Breathing natural; countenance free from all expression of suffering. Tongue less red; one stool from oil which did not require to be repeated; evacuation rather light coloured with very minute rounded masses of fatty matter floating on surface; Pulse, 100; blistered service of a fiery red colour, and very sensitive.

Extract, opii. gr. ij. h. s.
Cataplasma superficiei vesicatæ.

April 2. Setaceum in latere dextro, juxta spinam, inseratur.

7. Seton discharges freely. Percussion clear, and respiratory murmur audible over greater part of affected side of chest, *which now measures a little less than the sound side.* Sleeps well, and begins to have an appetite for food. Pulse, 105. Tongue clean. Bowels slow.

Ol. ricini, ℥ss. primo mane.
℞; Decocti senegæ. ℥j. ter de die.
Ordered *common* diet, having hitherto been on *low*.

From this date he improved uninterruptedly; and on the 9th of May, all traces of pectoral and abdominal disease having disappeared, he was, on account of the spinal disease, transferred to one of the surgeons by whom he was discharged a few days afterwards.

Remarks.—I have entered at considerable length into the details of this case, because I believe it to be one of very great interest. The patient on admission, and for some time previously, laboured under a severe attack of gastro-enteritis, for which leeches, blisters, tepid baths, mild aperients, &c., were beneficially employed; but shortly after the symptoms had begun to decline, and while the patient, strictly limited to low diet, was desirous of more substantial food, the breathing became slightly hurried; and on examining the chest, the right side was found to be the seat of extensive disease. The physical signs clearly indicated not merely pneumonia but pleurisy also; although neither then nor afterwards was œgophony heard. But the increased fullness and dullness of that side of the chest (which subsequently became slightly contracted) could be the result of nothing else than pleuritic effusion; while the moist crepitous râle rendered the existence of pneumonia indubitable. The case, indeed, was evidently one of that form of disease, which Laennec terms "pneumonia complicated with slight pleurisy," the latter being merely a consequence of the former.

The thoracic disease must necessarily have existed for some days before the examination was made; and yet even then a slight acceleration of the breathing, scarcely visible to a nonprofessional observer, was all the indication that it furnished of its existence. The patient though closely questioned denied having any pain in the chest; there was neither cough nor expectoration before the 13th; and it was two days later still before blood appeared in the sputum. When it did appear, it consisted only of a few minute specks, nor did it shew itself a second time. Who then, *having regard only to the general symptoms* would have suspected, or at least have satisfied himself, that such extenive disease existed in the chest? The small ragged masses of purulent expectoration were, it is true, very characteristic of pneumonia; but they were so scanty that they would most probably have been overlooked but for the previous discovery of the thoracic disease. Let us suppose, however, that, without the aids of percussion and auscultation, the nature and extent of the affection could have been inferred from a careful consideration of the general symptoms, would the conviction produced by such evidence have been sufficiently strong to lead to that continued decision of treatment, that direct and systematic application of disagreeable remedies—observable in the record of the case, and without which the patient's life must necessarily have fallen a sacrifice to the uncontrolled disease? In what I here say, I am anxious not to be misunderstood. Far be it from me to assume any merit to myself for prescribing a line of treatment, which no one, thoroughly acquainted with the nature and extent of the disease, would have hesitated to adopt. My object in alluding to the point is to illustrate the great importance of attending to the *physical signs of thoracic disease*. This few, if any, are now-a-days bold enough to deny; and yet, *in their practice*, the great majority of medical men still act as if they had no faith either in auscultation or, percussion.

Andral, in his admirable "Clinique," has related some cases, very similar to the present, of pneumonia occurring during the progress of gastro-enteric fever, without presenting either cough, thoracic pain, or any other very remarkable symptoms.

In most diseases of the chest, but particularly in pleurisy, blisters would, I believe, be found much more efficacious if they were applied of a *larger size, and more frequently* than they usually are. In the present case, blisters were applied over the whole of the right side of the thorax posteriorly and laterally, as well as over part of its anterior surface also. It is a familiar maxim, not to blister in pleurisy, until after the more acute symptoms have subsided; but I have long since satisfied myself that *immediately after venesection*, a blister may be applied, not only with safety, but with the greatest possible benefit, *provided it be sufficiently large*. My plan in severe cases is to cover the affected side from just below the axilla to the the inferior margin of the false ribs, and from the spine to the sternum, with one large oblong blister. As soon as vesication commences, the patient invariably feels relieved, and very generally changes his position, turning from the back to the sound side, on which previously he had been unable to lie.*

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* Vesication is produced much more certainly and quickly, as well as with less pain, by rubbing the skin, previously to the application of a blister, with

Notwithstanding the patient's weakness, I deemed it necessary to have him cupped on the 13th of March, and leeched on the 14th, both of which measures afforded relief.

The calomel and opium, administered for the first time on the 9th of March, and ordered to be taken with increased frequency on the 14th, were continued without intermission until the 18th, when (the mouth being slightly touched) I deemed it advisable, as the patient's strength was much reduced, to omit them for a time. They were resumed on the 20th, one dose being ordered daily, and were finally laid aside on the 24th, at which time, though the mouth was decidedly affected, the stools were light-coloured. This was owing to the additional nightly dose of opium, from which however the most marked benefit was derived. I believe, indeed, that by it mainly was the patient's strength kept up; for in inflammatory diseases, attended with exhaustion of the vital powers, opium is, (as Sydenham long since declared it to be,) the best, and often the only safe cordial.

The state of the bowels required constant attention, on account of some slight traces of the original disease, but in a great measure because of the frequent use of opium. They were regulated almost solely by small doses of castor-oil, frequently repeated. On the 24th of March (the day on which the calomel was omitted) five grains of the ulterative powder of the hospital (consisting of hyd. c̄ cretâ, pulv. rhei, and pulv. ipecac.) were given with a view of assisting in the restoration of the biliary secretion. To maintain it afterwards the castor-oil alone was found perfectly sufficient.

On the 2nd of April a seton was inserted, partly with a view to benefit the spine, and partly on account of the pulmonary disease which was not yet quite subdued. It continued to discharge freely during the whole of the patient's subsequent residence in the hospital, nor was it removed on his dismissal.

REMITTENT FEVER OF CHILDREN.

Of this disease I treated seven cases among the in, and nine among the out-patients. Of the former class of patients the average age was 10, of the latter, only six years. This difference is to be accounted for by the fact, that patients under 7 years of age are not admitted into the hospital, unless for operation. The average duration of the in-cases was forty-two days; of the out-cases sixty-six days. Of the whole sixteen patients, eleven were cured, three were relieved, one was discharged without benefit, and one died.

I have already alluded to the analogy existing between mucous fever and the remittent fever of children. This resemblance, indeed, is so striking, not merely as regards one symptom, but as regards almost all, that it would be more cor-

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the strong acetic acid, and mixing up a quantity of the same with the blistering plaster. In this way a blister may be got to act efficiently in from three to five hours, and if, after its removal, a warm poultice be applied for an hour or two, and the part then dressed with *wadding* or carded cotton, scarcely any inconvenience is afterwards experienced. The wadding absorbs the moisture, and affords to the raw surface a soft warn covering, infinitely more comfortable than any greasy application whatsoever. Should the wadding, after some hours, begin to feel hard from the coagulated secretion on its surface, it ought, even though slightly adherent, to be removed and a fresh piece applied.

A great advantage of this mode of blistering is, that persons who cannot, or will not, confine themselves during the time necessary for the common tedious process, may be readily induced to submit to *it*,—seeing that a blister applied at bed-time, will have full time to act without interfering in the least with the engagements of the following day.

rect to consider them as identical, any differences that exist being easily accounted for by the difference of age. Thus in children, in whom the glandular system is so much more active, the disease is always attended with more or less enlargement of almost all the lymphatic glands. In them, worms too, are a more frequent concomitant, although they are by no means uncommon in the mucous fever of adults; as has been shown by the observations recorded in a previous page, and as has been testified by Rœderer and Wagler, by Huxham, and numerous other authors.

But unless under circumstances similar to those in which the class of people formerly specified are placed, adults are not very often affected with mucous fever, while the remittent fever of children is met with in all places, and is of every-day occurrence. From a consideration of these facts we are led to conclude, that confinement, deficient clothing, and poor diet, are to be regarded as its chief exciting causes. The influence of these in producing a weakened and deranged condition of the several organic functions has already been alluded to, and is so easily comprehended that it needs not to be further insisted on.

Dr. Butter's division of the disease into three varieties seems to me a very unnecessary refinement, his *acute* and *chronic* varieties being nothing more than different stages of the same form of disease, while that named the *low* is merely a modification induced by original or acquired weakness of constitution in the patients affected.

The remittent fever of children is so constantly met with, and is so well known, that it would be only lost labour to give here a *general* description of its symptoms. Nor are these sufficiently varying in different patients to induce me to enter into the details of more than three cases. One of these proved fatal, and is selected on that account, the *post-mortem* appearances being highly deserving of notice. But before proceeding to these special details, it may be well to impart some general notion of the plan of treatment pursued, and which was framed chiefly according to the following indications:

1. To improve the state of the secretions. This was effected by calomel, mercury with chalk, sulphate of potass, rhubarb, castor-oil, and (if the expulsion of worms appeared an object of importance) scammony or jalap added to the calomel. But in general active purgative were not resorted to. The compound calomel pill (the children old enough to swallow pill) was found highly serviceable. To those who cannot take the medicine in this form it might be given as a powder, in which shape I have of late occasionally prescribed it even to adults, having in several instances found the pills to be discharged by stool *perfectly unaltered*. In the first case of this kind that I met with, I could not help thinking that the pill had by accident fallen into the pot which contained the evacuation; but it was not long before a second and a third instance, (occurring with different patients) deprived me of all reasonable ground for such a suspicion.

2. To give strength and tone to the general system.—With this view I administered (the excretions being previously improved) quinine, combined sometimes with ipecacuan, sometimes with mercury and chalk, according as different symptoms prevailed; infusion of gentian or cascarilla with hydriodate of potass, the latter in doses varying from one fourth of a grain to one grain; recently prepared carbonate of iron; nitrate of silver, &c. The last substance here mentioned was prescribed with the double view of strengthening the general system, and of exciting a healthy local influence on the digestive mucous membrane. In every case in which it was used it was found highly beneficial. The dose varied from the twelfth part of a grain to a whole grain. To the younger children it was given in solution, to the older ones in pills. In the latter form it has, I think, a better chance of reaching the intestines undecomposed by the hydrochloric acid and salts of the gastric juice.

CASE 1.—J. A., æt. 10, a very intelligent little boy, who accurately described his sensations, was admitted May 6th.

Symptoms.—Emaciation, countenance pale, eyes dull, mucous membrane at entrance of right nostril covered with thick incrustations; frequent *irregular* chills followed by partial flushes; dull heavy pain of occiput; respiration short; action of heart irregular; pain in epigastrium and abdomen; both of which are tumid, the latter tender also; appetite variable; tongue furred, papillæ red and elevated; bowels costive; evacuations light-coloured and very offensive; lower extremities weak, and the seat often of aching pains.

Illness began about two months ago, previously to which time, (but not since,) he had passed several round worms.

Treatment.—Hyd. submur. gr. iij.
Pulv. jalapæ comp. gr. xx. f. pulvis bis in. septimanâ sumend:
℞ Sodæ subcarb. ʒj.
Conf. aromat. ʒiss.
Acid sulph. dil. ʒss.
Aq. menth. pip. ℥vj. f. mist. sumat. ℥ss. ter de die.

May 12th. Pulv. rhei.
Hyd. c̄ creta. āā gr. ij. M. ft.
pulvis singulis noctibus sumendus.

25th. Rests badly, starting from his sleep, and fancying he sees frightful images. Tongue clean, but papillæ elevated and red. Has not passed any worms, although powders have operated with moderate briskness.

℞ Argenti. nitrat. gr. vj.
Extract. hyoscyam. q. s. misce optime et fiat massa in pilulas xxiv. dividenda, e quibus una sumatur ter in die.

Persistat in usu pulverum purgantium, ut etiam pulverum alterativorum, non misturæ.

Under this treatment the little patient's health soon began to improve; his appetite became steadily good; his heart ceased to beat irregularly; and his sleep was no longer disturbed by dreams. On the 11th June the pills were omitted, and he was ordered, instead, one ounce of decoction of bark thrice daily. On the 17th of the same month he was discharged cured.

CASE 2.—A. P., æt. 12, admitted Feb. 7th, 1837.

Symptoms.—Countenance pallid, with a livid circle under eyes; flesh wasted; skin dry, presenting on extremities (particularly in the neighbourhood of joints) numerous minute scales; glands of neck enlarged; frequent irregular chills; head-ache, accompanied often with drowsiness; palpitation of heart; nausea; abdomen full; umbilical and hypogastric regions the seat of constant pain; tongue clean, breath fetid; bowels costive; pulse 60, feeble.

Disease has existed twelve months, during the greater part of which time, she has been subject to fits, attended with loss of consciousness and with slight convulsions, but not with foaming at the mouth. They come on at irregular intervals, and are preceded and followed by extreme depression of spirits, leading even to tears. Soon after the commencement of fits, she began to pass round worms, of which 31 were evacuated in a period of six months.

Treatment.—Hyd. submur. gr. iv.
Pulv. scammon. gr. v.
Pulv. jalapæ co. gr. xxv. f. pulvis cras mane sumendus, bisque in 7na. repetendus.
Diebus a purgatione liberis sumat ægra ter in die,
Ferri Carb. recentis gr. x. ex theriacâ.

Feb. 11th. A fit on the night of admission. Bowels four times acted on. No worms.

14th. No fit since last report. Countenance looks better.

16th. Took the powder yesterday and passed, during its operation, a large ascaris lumbricoides.

22nd. Fits have not returned. General health improves, but pain in umbilical and hypogastric regions continues. Pulse until yesterday did not rise above 65: it is now 74.

The umbilical and hypogastric pains still continuing, together with a dull heavy sensation in occiput (symptoms which when they occur together, always I believe, indicate the existence of worms in the alimentary canal) I prescribed, on the 6th of March, half an ounce of ol. terebinth. and the same quantity of castor-oil, made into an emulsion with liquor potassæ and peppermint water. It did not bring away any worms, but a similar dose given on the 13th expelled a large lumbricoid worm, after which the abdominal pains ceased, and the patient's health improved rapidly. On the 16th another worm was discharged, without the operation of any purgative, and on the following day quinine was prescribed instead of the carbonate of iron. Eight days afterwards the patient was discharged cured.

Remarks.—Although worms are by no means to be regarded as the cause of mucous fever, yet they often give rise to so much direct and local, as well as sympathetic and constitutional irritation, that their expulsion becomes an object of very considerable moment. In such cases one is justified in departing from his usual caution, and prescribing instead of mild aperients, the more active and even drastic purgatives. But he must watch anxiously the effect of every dose, and in case the fever should be aggravated, or the abdomen rendered tender, he must at once intermit the use of purgatives, and have recourse to a soothing plan of treatment; for the continued presence of the worms is, under all conceivable circumstances, a thing much less to be dreaded than inflammation of the mucous follicles, to which active purgation might in certain states of the mucous membrane very readily lead. But if, as in the present case, the symptoms improve after each exhibition of the purgative, there can be no doubt as to the propriety of continuing to repeat it, as long as there is good evidence that the worms are not yet wholly expelled.

The circumstances most deserving of notice in this case are, the very large number of worms passed previously to admission; the peculiar fits occasioned partly by them, but partly also (we cannot doubt) by the accompanying derangement of bowels, for they ceased after the first purge, although no more worms were thereby expelled; the depression of spirits, very similar to what takes place in hysteria, and extremely usual in one so young; and lastly the low state of the pulse, which for several days after admission did not rise above 60 strokes in the minute, although its general range in this disease is considerably above 100. Is the strange fact here recorded attributable to a sympathetic derangement of the cerebral functions, of the existence of which the fits already alluded to afforded undoubted evidence?

The anæmic state of the patient induced me to try first the carbonate of iron. Had the fits not ceased very soon, I should most probably have substituted for it the nitrate of silver.

CASE 3. E. T. æt. 6,* admitted 21st of March, 1837.

Symptoms.—Great debility; countenance pale; mucous membrane of nostrils covered with incrustations, which the little patient often picked off; skin dry; one chill (almost amounting to a rigor each afternoon, and followed by slight pyrexia; cervical glands on both sides much enlarged; abdomen tumid; occasionally the seat of pain; right lower extremity painful and at times partially paralysed; tongue reddish; bowels slow; motions dark-coloured.

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* This patient though under the age specified by the rules of the hospital, was admitted as an in-patient, both on account of the serious nature of her disease, and because her mother, being at the time a patient in the hospital, could pay her every necessary attention.

Has been out of health sixteen months, during which time she has passed three round worms.

Treatment.—Pulv. scammon. co. gr. xij. cras mane, et postea oleum ricini si opus.

22nd. A small lumbricoid worm voided.

From this date until the 13th of April, three purges of calomel and scammony in moderate doses, and followed, when necessary, by castor-oil, were prescribed without bringing away any more worms; and the little patient took besides, twice a day, five grains of recently-prepared carbonate of iron in treacle. For a time her appetite seemed to improve, and her countenance looked better, but on the 13th of April, she complained of pain in the epigastrium, seemed averse to food, and vomited the tea &c. taken at breakfast. A blister was applied to the epigastrium.

April 14th. Respiration hurried and laboured; and performed with a loud, thick, muffled sound; eyes watery, slightly suffused, countenance pale, lips parched, complains of pain in throat which on examination is found to be highly inflamed, the inflammation extending from about commencement of posterior third of palate backwards over velum, uvula, amygdalæ, fauces, and as far down as the eye can reach. It is of a bright red color and the mucous membrane appears as if it were raised up by subjacent effusion. The fauces present some pretty large patches of white, and apparently very tenacious muco-albuminous effusion. Skin hot; tongue dry; bowels open yesterday; pulse 130.

℞. Hyd. submur. gr. j.
Pulv. ipecac. gr. ij. f. pulvis. 4ta quaque hora sumend.
℞. Argenti nitrat. ℈ss. Aquæ distillat. ʒiij. ft. solutio palato ac faucibus libere applicanda.
Hirudines tres gutturi.

15th. The leeches were applied to the throat soon after visit yesterday, but the patient becoming delirious, and apparently unable to swallow, only one powder was given. An attempt was made to apply the solution, but with little success. The patient, indeed was rapidly sinking, and it was evident nothing could arrest the progress of the disease. During the early part of the night, she threw her arms about, tossing the head from side to side, and uttered low plaintive moanings. Towards morning, the respiration became low, and the patient comatose, in which state she remained four or five hours, and then died without a struggle.

Inspection. Veins on surface of cerebral hemispheres distended, containing soft dark coagula floating in clear serum.

Fauces and pharynx partially covered with a thin layer of viscid muco-albuminous effusion—mucous membrane beneath *slightly* inflamed. Œsophagus healthy.

Lining membrane of larynx of a light rose-colour; that of trachea deeply stained and covered with a thin sanguinolent mucus—the line of distinction between them abrupt and well-marked. Bronchial tubes half filled with red frothy fluid; their lining membrane inflamed, but not so deeply as that of trachea.

Inferior lobe of right lung much congested; upper lobe so strongly adherent to costal pleura, that, in separating them, a rounded mass of pulmonary substance, more than half an inch in diameter, was torn away, and remained attached to ribs. Two ounces of serum in left pleural sac. Bronchial glands converted into a soft white substance very like cream-cheese; but conversion in some of them incomplete, shreds of the glandular substance still remaining, and being surrounded with the cheesy matter hardened so as to form sacs, several of which were more than half empty. Two of the glands were as large each as a pigeon's egg.

A coagulum consisting partly of colourless fibrine, and partly of dark blood in right auricle, and extending into right ventricle. Uncoagulated, thin, black blood in left auricle.

Anterior surface of liver marble with irregular yellow streaks, extending chiefly backwards, and found on incision to penetrate the whole substance of liver. Gall-bladder distended with dark green bile, which has begun to exude upon the liver and adjoining viscera. Mesenteric glands enlarged.

Lining membrane of duodenum and upper part of jejunum smeared over with yellow bile. The former presented two patches thickly studded with minute dark green points, the matter causing which appearance existed seemingly in the submucous cellular tissue. The lower part of the duodenum contained four small round worms, rolled up into a mass, the mucous membrane near them being in a state of high vascularity. The *glandulæ solitariæ* of the duodenum were much enlarged, of a pearly white appearance, and without any surrounding vascularity. Those of the jejunum and ileum had a pustular appearance, with elevated inflamed bases, and were for the most part encircled with radiating vessels. One, with which an ascaris lumbricoides was in contact, was as large as a split-pea, and was deeply ulcerated in its centre. On the side of the intestines opposite to the attachment of the mesentery, the mucous membrane throughout the whole of the jejunum and ileum presented numerous elevated longitudinal types of a pale fleshy appearance, measuring from half an inch to an inch in length.

The spleen was larger than natural and firm.

The other organs were healthy.

Remarks.—The morbid appearances above described, coupled with the history of the case, afford abundant matter for reflection.

Did the purgatives that were given aggravate the intestinal disorder? It is difficult to conceive how they could fail to do so, yet it is certain that the patient's health slightly improved for a time under their use. But it is not probable that for some time after admission, the intestinal glands were merely enlarged (as those of the duodenum still remained), and that they put on the appearance discovered on dissection only a few days before death? This is the view of the matter which I am inclined to take, when I consider the benefit apparently derived from the purgative and tonic plan of treatment, as well as the very short period prior to death at which the fever began to present inflammatory symptoms, and to assume a continued type. Nor can we wonder that pustules should form so rapidly on the mucous membrane, if we only reflect how quickly they sometimes develop themselves in the skin. But, conceding the correctness of the above notions, may it not still be argued, that the purgatives and tonic (particularly the former) *led to the production* of so much inflammation? That they were calculated to increase in the mucous membrane any disposition to inflammation that might exist, cannot be doubted; but that they were the sole or even principal cause of it is, in my opinion, incredible. The intestinal inflammation and eruption of pustules are, I believe, as much essential parts of the acute form of gastro-enteric fever, as those of the skin are essential parts of any of its eruptive pustular diseases. Yet, notwithstanding all this, it is unquestionable that whenever there is reason to believe that such a tendency exists in the digestive mucous membrane, all active purgatives ought to be carefully avoided. The present case, therefore, which is so well calculated to enforce this important practical caution, is purposely placed by the side of the preceding one, in which a succession of active purgatives was exhibited with very decided and unmixed benefit.

Are there any sure grounds of distinction by which we can discriminate accurately between these two classes of cases? And if not, are we to forbear altogether from purgatives, and thus give up the good which so often results from their use, rather than incur the risk of their occasional pernicious consequences?

To the former of these questions I would answer that *in general* an accurate distinction may be made by a careful consideration of *all* the symptoms. If the fever lay aside the remittent, and assume the continued, type, if the tongue become morbidly red, the appetite much impaired, the skin hot, the abdomen tender, the head painful, the eyes glassy or suffused, and the temper unusually irritable, there can be no doubt that inflammation of the intestinal mucous follicles already exists. And even though only two or three of these symptoms present themselves, and that also in a slight degree; yet if they are aggravated after the administration of even a mild purgative, there can be no question as to the propriety of guarding carefully against the use of every thing stimulating. But redness of the tongue alone by no means contra-indicates the use of purgatives. In the last case but one here recorded, in which very active purgation was employed with such decided advantage, the tongue was much redder than it was in the fatal case.

It being thus shown that in general the two classes of cases (viz. that class in which purgatives are useful, and that in which they prove injurious by aggravating the intestinal inflammation) may be accurately distinguished, it follows that to proscribe purgatives altogether from the treatment of the disease, would be to deprive ourselves, without a sufficiently good reason, of one of our most effective means of cure.

Notwithstanding the highly enfeebled state of the patient's constitution, the inflammation of the throat very speedily after its commencement attained to an exceedingly high degree of intensity, producing an effusion of plastic lymph. John Hunter was of opinion that this form of mucous inflammation "has something of the erysipelatous disposition"* an opinion which he formed, no doubt, from the consideration of the rapidity with which it extends along the mucous surface. In the present case it spreads very rapidly, beginning in the throat, and extending in a few hours down the trachea, and ultimately into the most minute of the visible bronchial ramifications. Yet the breathing, though altered in the manner described, had nothing of the croupy sound, and there was little, if any, of that agonizing distress which patients labouring under genuine crop experienced. The absence of such symptoms is explained by the fact that the lymphy exudation did not extend lower than the lowest part of the fauces. The proper air-passages, though highly inflamed, did not throw out coagulable lymph.

Sydenham, in describing angina, says, "æger spiritum per nares ducere non valet,"† and in fact the respiration in the present case was such as one might pretty accurately imitate by breathing rather forcibly, and compressing at the same time both nostrils. Huxham, in his admirable delineation of *angina maligna*, has the following passage: "respiratio reddebatur difficilior, *cui stertor et sibilus accedebant*, qui ægro tum jugulare videbantur. Vox rauca et obtusa illi erat simillima quæ a veneris in faucibus ulceribus oritur: loquelæ respirationis—qui sonitus iste ita erat peculiaris, ut homines, qui cum ægrotis versati erant, facile morbum agnoscere possent sonitu illo miro. Sonum illum acutum, latrantem quem sæpe in angina inflammatoria." (Croup) "percipimus *nullus meorum ægrotorum reddidit*."*

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* This great man, whose writings, long considered in part unintelligible, have become better understood and more appreciated in proportion as we have advanced nearer to him in pathological knowledge; the republication of whose works at the present day affords a cheering omen of what may be expected from the philosophical spirit which now pervades every rank of our profession—believed that the erysipelatous inflammation produces results the very opposite of those to which common inflammation gives rise; namely, in the serous membranes suppuration, and in the mucous the effusion of coagulating lymph.—*Vide* "*Treatise on the Blood*," *vol.* 1, *p.* 427. *London*, 1812.

† Opera Universa Medica, p. 248. Lipsiæ, 1827.

It is worthy of remark that the larynx was very little affected, its natural colour being scarce perceptibly changed, while the parts both above and below presented evidence of high inflammation. This is a very common, though, as far as I am aware, unexplained phenomenon in such affections of the air-passages. And yet it is possible that during life the larynx may have been more inflamed than its appearance after death would lead us to imagine; for on the day preceding that on which the patient died, the throat (unless in those parts covered by coagulable lymph) had exactly the appearance which the skin presents when it is affected with very acute phlegmonous inflammation; but when the parts came to be inspected after death, the bright red colour had faded, and only a very slight blush of inflammation remained.

That the inflammation of the air-passage was the immediate cause of death, admits not of doubt; but whether it should be regarded as an accidental affection totally unconnected with the intestinal disease, or as originating in the same state of the constitution which produced this latter, and therefore closely alied to it by nature—is a question not so readily solved. I am inclined however, to view it in the latter light, chiefly because all the *precisely similar* cases I have seen, have occurred in such patients. In two instances however the subjects of the affection were adults, and the intestinal lesions were merely inferred from the symptoms; for in neither case was a post-mortem examination obtained. In both, death took place on the third day from the first feeling of uneasiness in the throat, the fever after the first few hours having assumed a well-marked typhoid type, and (in one of the patients) petechiæ intermixed with very minute pustules having appeared on the lower extremities. Both these patients were of delicate constitutions, and their strength had been exhausted by previous disease.

The occurrence of membranous angina in scarlatina, measles, gastric fever, erysipelas, &c. has been noticed by several writers, and proves most satisfactorily that the local inflammation is not, generally speaking, an independent affection; but only part and parcel of the constitutional disease. The present observations will, I hope, attract some attention to its frequent existence as a complication of remittent fever, both in children and adults. Huxham evidently described such a complication in his account of the epidemics of April, 1734;† but with the characteristic symptoms of it, he mingles those of simple amygdalitis, in such a way as to prove that he confounded strangely these two widely distinct affections.

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* Huxhami Opera, p. 592. Lipsiæ, 1829.

† Op. Citat. p. 93; also p. 175, in which he speaks of *a species of angina supervening on chronic diseases and slow fevers*, and which almost invariably terminates fatally. But in his description of the symptoms he says: "nec tumor est extra, nec in faucibus aliquid conspicuum, aridæ sunt quodam modo et pallidær" Do mere dryness and paleness of the fauces then constitute a species of angina? The truth is, Huxham, as well as all the older authors, so confounded the several species of angina, that they often assigned to one, the symptoms belonging to another and very distinct species. In the work just quoted, p. 173, there is very accurately detailed, under the head of angina, a case of undoubted

In the Medico-Chirurgical Review for April, 1827, there is extracted from Dr. Hamilton's work on the management of children, an account of a "modification of sore-throat in children," which seems to have been no other than that here treated of; although, in some minor points, Dr. H's description of the disease is different from that which my own observation would lead me to give of it. I have no doubt, however, as to the identity of the affection, which appears to have proved not less frequently and rapidly fatal in Dr. H.'s experience than (I regret to say) it has in mine.

Is the form of angina, described in the foregoing paragraph as complicating certain diseases, infectious ? I do not believe that *it* ever is, although the disease of which it is a complication (as for instance scarlatina) may be, and often unquestionably is. But when it presents itself during the progress of low remittent fever, whether in children or adults, neither it nor the general disease is, in my opinion, infectious. In this form it has often been known to prevail for a season (generally either in the Spring or Autumn) in some particular neighbourhood, giving rise to the idea of contagion ; and passing sometimes under the name of angina maligna, an affection *the individual and separate* existence of which I am very much disposed to question.* Sometimes, again, it has been confounded with *scarlatina maligna*, the minute pustular, and, occasionally, petechial eruption on the skin, together with the frequently simultaneous prevalence of actual scarlatina, imparting to such a classification of it a very strong semblance of truth. But in such instances, instead of regarding either the local inflammation or the fever as contagious, we ought to look upon them as the conjoint result of endemic predisposing, and epidemic exciting causes.

The great length at which I have dwelt on membranous angina, as a complication (and almost invariably a fatal one) of remittent fever, is not, I believe, unsuited to the importance and comparative novelty of the subject. I shall now resume my remarks on the morbid appearances discovered on dissection.

The congested state of the vessels of the brain, together with the existence of black blood in the heart, particularly in its right cavities, (in which it had coagulated), demonstrated, what the symptoms during the last hours of life had indicated, impeded circulation through the lungs, as well as imperfect decarbonization of such portion of the blood as did pass into the greater circulation. The blood found in the left auricle, must have permeated the lungs the moment before life ceased ; but its vitality seems to have been lessened rather than increased thereby ; for while that in the right auricle had coagulated with some degree of firmness, *it* remained perfectly liquid, and was as black as it is ever seen to be in the most putrid diseases.

The state of the bronchial glands deserves attention. The cheesy matter must

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laryngitis, which proved fatal in 36 hours, the operation of bronchotomy, at which Huxham had hinted, but which had been strongly discountenanced by the by-standers—"id vero quasi esset hominem jugulare, non servare, mussitabant adstantes"—not having been performed. This case immediately occurred to my mind when I read Dr. Cheyne's statement (Cyclop. of Med. art. Laryngitis) that the case of General Washington was, as far as he knew, the first accurately recorded one in the annals of medicine.

* In stating this opinion, I am glad to avail myself of the authority of Sydenham, who again and again declares the affection of the throat, is only a symptom, while the fever is the essential and individual disease. Op. Citat. pp. 223 and 249. It is but just however to add, that this illustrious author took the same view of scarlatina, pleurisy, pneumonia, rheumatism, &c. in all of which the local inflammation, according to him, is nothing more than a complication or result of the constitutional disease. The same doctrine is taught also by the celebrated John Brown, in his *Elementa Medicinæ*.

have began to form on the circumference of the gland, and must have continued to be deposited by the vessels of the gland itself, until, by its pressure, it cut off their communication with the surrounding parts. After this no further vital changes could take place in the body of the gland, so that any shreds of its structure that remained unabsorbed, must afterwards so continue.

In reverting to the treatment of the present case, there is found but little worthy of comment, with the exception of the exhibition of purgatives, on which I have already spoken freely. When the inflammation of the throat commenced, knowing the rapidity with which the affection usually runs its course, I felt that it was incumbent on me to use every exertion to check it. I accordingly prescribed leeches to the throat, the internal application of a solution of nitrate of silver, and calomel with ipecacuanha, the latter in two-grain doses, intending that it should at first excite vomiting. Had the patient been more vigorous, and had I been less apprehensive about the condition of the digestive mucous membrane, I should have prescribed tartar-emetic instead of the ipecacuanha; for notwithstanding M. Guersent's preference of the latter in simple croup, I believe that it is by no means equally efficient with the former in arresting the progress of inflammation. In the present instance, there was no opportunity of trying its powers, for the patient sank so rapidly that only one dose was given.

The same may be said of the caustic solution, which it was found impossible to apply effectually. But in my own experience all the local applications employed have invariably disappointed my wishes. In some cases, indeed, they have appeared to aggravate, and cause an extension of the inflammation. There is one, however, of the effects of which I can say nothing from experience—I mean undiluted muriatic acid, as recommended by M. Bretonneau. I have always shrunk from its use, and the more so as the recommender of it subsequently adopted, by preference, another local application, to wit, powdered alum reduced to a paste with water.

The application of a mineral acid to the throat when inflamed, was nothing new when proposed by M. Bretonneau, the sulphuric having long before been recommended by Sydenham. He prescribed it, however, mixed with honey of roses, "ad summum acorem." This appears to me a less objectionable method of employing so powerful an agent.

To conclude.—From all that I have witnessed of this formidable affection, I should be inclined, in any cases of it that may afterwards occur to me, to place more reliance upon tolerably large doses of quinine, repeated at intervals of two or three hours, than on any other remedy or set of remedies whatsoever. There still however remains a wide field for observation as regards both the treatment and the nature of the affection, and such, in my opinion, is the importance of the subject, that I should not consider I had acquitted myself properly, either as regards the profession or the public generally, if I had treated of it less comprehensively than I have done.

BILIOUS REMITTENT FEVER.

The disease so named is, in my opinion, nothing more or less than a quotidian intermittent of the severest type. The great length of the paroxysm, and the unusual violence of the symptoms, leave the system neither time nor power for the formation of a perfect interrmission.

The causes which operate this marked difference are two-fold; first, an overfull and inflammatory habit of body, acompanied for the most part with excessive derangement of the chylopoietic viscera; and, secondly, the superaddition of cold as an exciting cause, the system being already under the latent influence of malaria. Sometimes it happens that those agents affect the body simultaneously, on a first exposure to miasmatic influence. Very often the action of cold is augmented by that of moisture also, both combining to render the skin imperspirable, and thus increasing the inflammatory tendency.

To the two causes above specified, we may with good show of reason, add a third; but as *they* are matters of observation while *it* is necessarily hypothetical, I have thought it better not to conjoin them. It is, an unusually strong dose (if I may use such an expression) of the malarious poison.

The true nature of this fever is clearly demonstrated by the following facts.

First—It not unfrequently begins as a distinct tertian-intermittent, then assumes a quotidian, and, soon after, a remittent type.

Secondly—By blood-letting, mercurial and saline purgatives, and a cooling regimen, it may often be reconverted into its primary intermittent form.

Thirdly—It is met with almost exclusively in those localities and seasons, in which intermittents prevail.

Fourthly—It cannot be perfectly cured without the use of those medicines, particularly bark, which are necessary in the treatment of intermittents generally. Indeed it often requires, as Sydenham long ago remarked, a larger quantity of bark for its cure than the common intermittents do.

The older writers do not often employ the term remittent fever, but they treat accurately of the disease under other names. Thus some speak of it as merely a variety of the tertian or quotidian intermittent. Others, again, consider it under the distinct title of semitertian or the Greek synonyme, Hemitritœus, although the general definition of this form of fever is seldom strictly applicable to it.* The detailed descriptions however, are such as cannot be mistaken (vide Spigelius, Hoffmann, Baglivi, &c.) Almost all mention its true relationship to the family of the intermittents; its seeming difference in the assumption of an imperfectly continued type; its frequency in plethoric, over-fed patients; the the marked severity of its symptoms; the universally disordered state of the chylopoietic functions; the firmer and more tenacious state of the blood than in the simple intermittents; the frequent existence of phrenitis, pleurisy and pneumonia, as complications; in fine, its dangerous nature and frequently fatal termination, (vide Celsus, Galen, Baillou, Spigelius, Sydenham, Hoffmann, Baglivi, Boerhaave, Huxham, &c.)

Bilious remittent fever prevails chiefly in the Autumn, and is met with almost exclusively in low marshy, or thickly-wooded parts of the country. The great agricultural improvements which have taken place in this country during the last half-century have diminished very much the frequency of its occurrence.

With one exception, all the more severe cases that I have met with in this neighbourhood, have occurred in robust men, employed in cutting down the thick underwood, which abounds so much in East Kent. In such patients, the disease has always suddenly supervened on exposure to rain and cold, and has been attended with violent inflammatory symptoms. Pneumonia and bronchitis have been more frequent complications than pleurisy, and delirium has been present almost invariably. This symptom is, *generally speaking*, independent of actual disease in the brain, and is more marked in those cases in which gastro-intestinal mucous inflammation, pleurisy, or pneumonia, (particularly the two former), exists as a complication. The older physicians thought differently, and, regarding the delirium as the result of a genuine phrenitis, were very much guided in their prognosis by the degree of violence to which it attained. Thus Sydenham, speaking of the fever which prevailed in the Autumn of the year 1678, says "Postea vero febris hœc eo usque etiam præter indolem suam incrudescebat, ut intermissionis loco *remissionem tantum ægro concederet, et magis in dies ad continuarum speciem accedens, tacto cerebro tandem haud paucos extingueret.*" The truth is, the violence of the delirium, the approach of the fever to the continued form, as also the actual danger, are all proportionate to the extent and severity of the existing inflammation, whether in the chest or abdomen. I do not mean entirely to exclude cerebral and meningeal inflammation, but when one or other of them does exist, it is, I believe, very often of secondary occurrence.

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* The Hemitritœus of Celsus, which is the same as the semitertian of Hoffmann, Cleghorn, &c. is characterized by a daily return of the fever, with a remission considerable on alternate days, but scarcely marked on those intervening. Hence it has been regarded by some authors as a compound of the quotidian and tertian types. But this latter, strictly speaking, is *the simple original type*; the quotidian itself, as well as all the others, being merely modifications of it. A robust plethoric constitution, local inflammation, &c. favour the production of the quotidian form; while a shattered constitution, impure blood, chronic congestions and enlargements of the viscera, &c., tend, on the contrary, to make the disease assume the quartan type. Hence the long duration of the cold stage in this last.

I have remarked, in the text, that the general definition of the semitertian is seldom strictly applicable to the remittent fever of this country, the remissions of which do not, in general, differ so much on alternate days. Yet I have met with several cases in which (particularly towards the decline of the fever) the difference was very considerable.

When the disease is fully developed, it generally happens that a single paroxysm with the remission, occupies the whole of the twenty-four hours, and, in very severe cases, even a longer period.* But I have met with instances in which there were two distinct daily paroxysms, one being much less violent and of shorter duration than the other. In these the patients were less robust, and the disease not attended with such highly inflammatory symptoms.

An extremely copious secretion of bile, though by no means an invariable, is yet a very common symptom of this disease. The conjunctivæ are most generally gorged, and the whole of the skin is deeply tinged with it. The quantity discharged by stool is in some cases enormous. I have known from three to five rather copious evacuations, consisting almost altogether of bile, to be passed daily for the space of more than a fortnight. This profuse secretion indicates necessarily an over-active state of the liver, induced, no doubt, by previous congestion in the portal system, as well as by the imperfect elimination of carbon from both the skin and the lungs. It occurs generally towards the decline of the fever, which abates always in consequence, but never, according to my own experience, undergoes a completely critical termination. Under such circumstances I have ventured to give the bark, without any disadvantage. Indeed, but for this potent remedy, the excessive biliary secretion might continue for a very long period, each cold fit renewing the portal congestion, and thus, affording materiel for a fresh supply of bile. But while thus administering the bark, it is always necessary to keep a strict eye to the state of the digestive mucous membrane, particularly to that part of it which lines the small intestines. Hoffmann, as also Huxham, recommended nitre in combination with the bark.

The fever sometimes undergoes an imperfect critical termination by an abundant hæmorrhage from the bowels. A corpulent female whom I attended in the

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* Cullen asserts that both in intermittent and remittent fevers, the whole paroxysm (including the intermission or remission) never extends beyond the period of twenty-four hours. "There is not," he adds, "one observation in physic in contradiction to this." Celsus, on the other hand, describes the paroxysm of the hermitritœus as extending to between twenty-four and thirty-six hours. "Porrigitque febris inter horas viginti-quatuor et triginta-sex," I have certainly seen the paroxysm of remittent fever extend beyond the nycthemeral period; but in all the cases in which this was witnessed the accession of the paroxysms was irregular, and the disease might very easily have been mistaken for continued fever.

Autumn of 1836, and who had laboured under the disease for several weeks before I saw her, was attacked, a few days after taking the bark, with intestinal hæmorrhage, the quantity of blood passed in twenty-four hours exceeding four pints. She recovered rapidly. This termination of the disease is noticed by Hoffmann in the following terms; "quando fluxus oboritur vel biliosus ac pituitosus, *vel etiam cruentus plane, bonum, et morbi solutionem nunciat.*" (Opera omnia, t. ii. p. 41. Geneva, 1748.)

As regards the treatment of bilious fever three leading indications present themselves:—First, to regulate the state of the stomach and bowels; secondly, to relieve plethora, whether relative or absolute. and reduce any existing local inflammation; thirdly, to prevent the accession of the paroxysms by the administration of bark or quinine. The first two indications may be reduced to practice simultaneously; the fulfilment of third should never be attempted until after the others have been duly attended to.

But, on the other hand, I have known much mischief result from unnecessary delay in prescribing the bark. Indeed I have met with cases in which it had not been given at all, the disease approaching the continued type so nearly that it had been mistaken for simple inflammatory fever. This error had arisen of course from highly culpable inattention on the part of the medical attendants. The patients, as might be expected, had never completely recovered, but had remained for months, and in one case for a whole year, labouring under a low nervous fever, accompanied with extreme depression of spirits, irregular chills, and a highly disordered state of the chylopoietic viscera.

The remedies found most useful in the treatment of bilious remittent fever are, in the formative stage, one or two emeto-cathartics (one grain of tartar-emetic to six or eight drachms of Epsom salts for a dose); when the disease is developed, bloodletting, both general and local—the latter effected by cupping-glasses to the epigastric or right hypochondriac region; mercurial and saline purgatives; antimonial diaphoretics (ʒss. ad ʒj. of antimonial wine in ℥j. of distilled water, every two, three, or four hours, according to the intensity of the symptoms); and, as soon as the more acute symptoms have subsided, the bark or quinine during the remissions, the antimonial medicines being still continued during the paroxysms. Purgatives also will still at times be required. It is singular that Sydenham, Hoffmann, and many others of the older physicians, should have been so much prejudiced againt the use of purgatives in this disease. Even Huxham did not venture upon any but the very mildest. In those cases, indeed, in which positive inflammation of the gastro-intestinal mucous membrane exists, purgatives must prove injurious; but such inflammation is, in my opinion, *very frequently a consequence of neglecting to remove the primary congestions*, by establishing and maintaining an active state of the different excretory organs.

When any local inflammation is detected, it ought, of course, to receive appropriate attention and treatment, and until it has been removed, the bark must be withheld.

Opium, which is very seldom admissible during the active state of the disease, is often extremely serviceable towards its decline. There is then met with in many patients, a strong mental delusion, attended for the most part with sleeplessness, and which yields to opium much more readily than to any other remedy. This symptom has been noticed by Dr. Jackson, and by Dr. Jos. Brown, the latter of whom states (Cyclopæd. of Med., art. Remittent Fever) that it is not confined to the advanced stage of the disease, but exists from an early period. With this statement my own experience does not correspond; but I have no doubt of its general correctness when I consider the opportunities for observation possessed by the excellent physician who makes it. I think it right therefore to add, that it is only when the symptom exists *towards the decline of the fever*, that I recommend opium as a remedy for it.

The only case of the disease treated by me in my hospital practice illustrates, in a very striking manner, the good effects of opium when given at the time, and under the circumstances above described.

Case 1. J. B. æt. 17, of a sanguineous temperament, by occupation a woodman, admitted January 10th.

Symptoms.—Intellect confused, so that he is incapable of answering correctly the ordinary questions; countenance of a deep violet colour; eyes slightly suffused and watery; skin hot, of a brownish yellow tinge; respiration laboured; epigastrium full; tongue thickly furred; pulse 130, soft and very feeble; mucous râle over whole of chest.

The person who accompanied him stated, that the disease had commenced four weeks before, in consequence of the patient's being drenched with rain while employed working in the woods; that it was ushered in by a chill which occurred soon after noon, and lasted several hours; that then high fever set in, which, according to her statement, had continued ever since. No medical treatment had been employed.

Balneum tepidum quamprimum, et postea hirudines sex infra claviculas.
Ol. ricini, ℥j. cras mane.

For four days after admission the treatment was confined to regulating the bowels, and improving the secretions and excretions generally, by means of aperient alteratives and tepid baths. During this period the remittent character of the fever was clearly ascertained. A chill took place each afternoon, and was followed by pyrexia which lasted until between ten and eleven o'clock on the following morning. Then partial and slight perspirations ensued, and a remission of from three to four hours' continuance. But the febrile paroxysm, at the end of the four days, had become shorter and milder, while the period of the remission was on the increase. A large quantity of bile had been discharged by stool; the epigastrium had become less full; the skin much more perspirable; the tongue less coated; and the pulse fuller and slower, being 96 in the remission, and from 115 to 120 in the paroxysm.

During the period above-mentioned, the patient had remained in the same confused state of mind which he presented on admission, his countenance being dull almost to vacancy, and his answers to the ordinary questions, though to a certain extent just and pertinent, being yet contradictory, and having reference, in part, to something else than the points on which he was interrogated. But on the morning of the 14th, he was found out of bed, and attempting to dress himself, and on being questioned as to what he was about to do, he stated, that his two children were dead, and that he must go home to his wife who was distracted at losing them. (It should be borne in mind that the patient was only seventeen years of age and unmarried). He was with difficulty persuaded, or rather forced, to return to his bed, where he continued to lament the death of his children, and to speak feelingly of the sorrow of his wife, until an early part of the afternoon, when (the other patients having gone to dinner) he arose, dressed himself, and forming his linen, &c. into a bundle which he took with him, found his way down stairs, and was issuing from the outer door of the hospital when he was stopped by the porter. Being in the house at the time, I was called to him, and found him greatly exhausted by the efforts which he had made, his pulse being so feeble and quick that it could scarcely be counted. Though much agitated, he informed me coherently of his children's death, and his wife's state of unsupported affliction, he being absent from her. Tears filled his eyes as he spoke, and his countenance was strongly expressive of the grief which he so feelingly uttered. He was assisted back to bed, and a person was appointed to watch constantly by him, as long as the delusion under which he laboured continued.

I directed the attention of the pupils who were present to the peculiar nature of this delusion, so different from the common delirium of fever, in that the imagined occurrence was described circumstantially, and with all the seemingness of reality, the passion of grief also *which it was naturally calculated to excite*, being actually and indeed strongly felt. I explained to them that such a delusive impression, leading at once to consistent mental processes, and appropriate mortal emotions, could be regarded in no other light than as a true *monomania;* and after stating the frequency of its occurence in bilious remittent fever, I expressed my hope of being able speedily to cure it by the use of opium. I accordingly directed the following draught to be given at bed time.

℞. Liq. opii. sed. ♏xxx. Liq. ammoniæ acetat. ℥j. Mist. camph. ℥vij. fiat. haustus.

15th. Slept well, and is this morning perfectly rational. On being informed of his delusion, he smiles, and appears to have some vague recollection of it. Says he has neither wife nor child, and cannot possibly conceive what brought such a notion into his mind. The nurse states that the fever came on as usual yesterday evening, and continued during the night; but his skin is now bedewed with perspiration, and his pulse soft and full, and down to 90. A marked change has taken place in his countenance, which is no longer either vacantly dull, or expressive of mental suffering.

Habeat quiniæ. sulph. gr. iij. quamprimum et repetat ter in die.
Haustus opiatus iterum sumatur h. s.
Persistat in usu pulv. alterativ.

After this date, it was not found necessary to repeat the draught, and the quinine agreeing well, the fever rapidly declined. On the 24th of January, the abdomen being flatulently distended and the seat of pinching pains, though not tender on pressure, a diarrhœa ensued, and several slimy evacuations were passed (the fluxus pituitosus of Hoffman.) The absence of abdominal tenderness, the negative state of the tongue, and the appearance of the slimy discharge (which consisted in a great measure of, apparently, mere mucus, without any of the albuminous matter which active irritation produces,) induced me to give the copaiva, a medicine which I never prescribe unless in such an atonic state of the mucous membranes. I gave it in small doses, combined with *liquor potassæ* and laudanum, and its good effects were speedily visible. The quinine, omitted during its use, was resumed after a few days; and from that date the patient's recovery progressed uninterruptedly and rapidly. He was discharged, cured, on the 10th of February.

I have though it unnecessary to notice the variations in diet which were made from time to time, as the patient's state altered.

Remarks. It is not improbable that, in this case, the poison had remained latent in the system for a considerable time before the rain and cold, acting as an exciting cause, roused it into full action; for the disease seldom originates at so late a period of the year.

The patient's state on admission was far from being a promising one. Not only did he labour, with vital powers greatly reduced, under a fever which gave rise to inordinate action, and of which the remission was comparatively short; but he suffered also from an advanced stage of bronchitis, the bronchial tubes of both lungs being much obstructed with muco-purulent secretion. A careful consideration of all these circumstances furnished me with the following indications of cure: first to equalize the circulation, and thus (and, if necessary, by topical means also) to relieve existing congestions, particularly that of the lungs. Secondly, to improve the state of the secretions and excretions. Thirdly, to support, as need might be, the powers, avoiding all necessary stimulation.

To arrest the febrile paroxysms by the specific remedy, could be regarded only as an ulterior indication, consequent on the fulfilment of the other three.

It appeared to me that the agents best calculated to effect the primary objects above specified, were the tepid bath, alteratives, and aperients, together with such an application of leeches to the chest, as the strength of the patient might seem to justify. As an experimental essay on this point, I ordered six leeches to be applied on the evening of admission, and such was the marked efficacy of the bath in relieving the pulmonic congestion, that further leeching was not deemed necessary. Its effects on the circulation through the abdomen were scarcely less beneficial, as was testified in particular by the improved state of the epigastrium.

The ulterior part of the treatment has already been fully descanted on.

INTERMITTENT FEVER.

The true cause of periodical intermittence in this and some other forms of disease, has hitherto eluded the discovery of all those who have investigated it. The older physicians indulged without restraint their fancy in the enquiry, and some French writers of our own day, as if to prove that folly and ingenuity had not yet exhausted themselves in attempting to solve the question, have advanced with regard to it doctrines and explanations, which, while they have the merit of being highly novel and ingenious, are at the same time, not only purely hypothetical, but also ridiculously absurd. (Vide Bailly, Roche, Brachet, &c. &c.) In the following observations of Werlhof (which I quote from the Dict. de Med. et Chir. Prat.) I am disposed fully to concur: "Typorum et periodorum febrilium miracula vidit omnis ætas, et obstupuit; videbit omnis posteritas, posteritas forsan omnis obstupuescebit."

But though we are completely ignorant of the essential cause of intermittence and periodicity in disease, we can yet observe and reason upon the phenomena which accompany them. Thus if we consider carefully the symptoms presented by a whole paroxysm of intermittent fever, we shall have good grounds to infer:

First, that the primary link in the varied chain of morbid actions which constitute such paroxysm, consists in a particular impression on, or condition of, the nervous system.

Secondly, that the speedy result of this is a temporary diminution of power in the heart and vascular system generally, whence ensue retarded circulation, an imperfect propulsion of blood to the surface and extremities of the body, and a consequent congestion of it in the vessels and organs of the thorax and abdomen.*

Thirdly, that after this state has continued for a period *always shorter in proportion as the patient is more vigorous*, the heart and vascular system recover their power, and with forced action propel the blood to the circumference and extremities, giving rise to pyrexia, and subsequently (in a manner which we do not comprehend) to profuse cuticular secretion.

Fourthly, that when such paroxysms have recurred frequently, there is often produced either passive permanent distention, or active growth and enlargement, or, it may be, even inflammation, of those organs in which, from their *position, structure, vascularity, and peculiar circulation*, the congestion is greatest. I need hardly specify the lungs,† spleen and liver as the organs here chiefly alluded to.

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* This appears to me a more rational exposition of the phenomena than that generally given, and which supposes an *active recession* of the vital fluid, from the surface and extremities to the internal organs.

† The congestion of the lungs in the bold stage of intermittent fever is noticed by the illustrious Harvey—sanguis in pulmones impingitur, incrassatur, non transit; hoc ex dissectione illorum qui in principio accessionis mortui sunt expertus loquor.—(" *De Motu Sanguinis*," *cap.* 16, *quoted from the Dict. de Med. et de Chir. Prat.*) Dr. Stokes, in the 31st vol. of the Ed. Med. and Surg. Jour-

After these, the pulmonary and gastro-intestinal mucous membranes (particularly the latter) are the parts which are most frequently and most extensively affected.

It is now pretty generally acknowledged, that cold and moisture are not of themselves sufficient to produce genuine intermittent fever, which owes its origin solely and exclusively to some endemic influence. Its prevalence in marshy situations, and during or immediate after certain states of the atmosphere, is a strong presumptive, though perhaps not an absolute proof, that vegetable decomposition is the source whence this influence originates. The fact so much insisted on by Dr. Good and others, that ague often prevails in elevated localities and in situations remote from marshy ground, proves nothing; inasmuch as we know that the circumstances which favour vegetable decomposition may exist on hills as readily, and indeed sometimes (as regards the *proper degree* of heat and moisture) even more readily than plains or valleys; while it is also certain that a very small quantity of vegetable matter undergoing decomposition in a locality otherwise healthy, may generate the disease. I once met with a case of tertian intermittent in the inmate of a cottage healthily situated, but near and before the door of which lay a few cabbage-stalks and leaves undergoing decomposition. The disease was rapidly cured by bark, the nuisance being removed; but recurred in the same patient, and presented itself also in another member of the family, some weeks afterwards, when another accumulation of the same substance, in precisely the same situation, had taken place. The supposed cause of the fever being now permanently removed, no case of ague presented itself in that family during the three subsequent years that they were within the reach of my observation. I recollect another case in which the disease was traced to a heap of willow twigs, thrown out by a neighbouring basket-maker into a drain which ran beneath the window of a low cottage chamber. All the members of the family who slept in that chamber (and from accidental circumstances it changed its occupants several times) were in turn affected with either remittent or intermittent fever—diseases previously unknown in that neighbourhood. Here too, on the removal of the nuisance, no case of ague ever afterwards occurred. I am always slow to admit, or believe in the *certainty* of any thing, but in both the instances here related, the origin of the disease appeared to me to be unquestionably ascertained.

That certain neuralgic affections originate in the same cause which produce intermittent fever, cannot well be doubted; for they prevail in the same localities with it, put on the same intermittent form, and are cured also by the same remedies. Whence then arise the marked differences observable between them? To regard, indeed, such affections as mere local diseases, would argue but a very imperfect acquaintance with the state of the general system in which they exist; but how comes it that in them the constitutional symptoms are, comparatively speaking, so faintly marked?—that the characteristic rigor and pyrexia are nearly or altogether wanting?—and, further, that an additional element is present, in the implication of part of the *sensitive* nervous system? These are questions the satisfactory solution of which must await future advances in pathological science. Almost all that we know upon the subject at present is, that the affections alluded to are produced, generally, by a long-continued exposure to the morbific cause; and that they are much more difficult of cure than simple intermittent fever. I have often been led to suspect that in them the organic system of nerves is more extensively affected, and that the implication of the sensitive system is only secondary; but these are merely points of belief.

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nal, mentions the frequent existence of this complication, as discovered by the stethoscope. Congestion of the liver and spleen is noticed by all who have written on the disease.

while the facts stated in the previous sentence are matters of positive observation. It would be well, I think, if writers on medicine were always to draw a clear line of distinction between what is *known*, and what is *merely believed*, to be.

The more external sensitive nerves are those most generally affected, possibly because all the larger ones run near the surface of the body, which both needs, and is endowed with a more exquisite sensation than the more protected parts of our frame. But the alimentary canal, *which is, as it were, another external surface*, is also sometimes the seat of intermittent neuralgic pain. I have met with many cases in which the stomach in particular was thus affected, and in which, after a very protracted duration, and the unavailing employment of a variety of remedies, the pain entirely ceased on the exhibition of quinine. In only a very small number of these cases was the pain regularly periodical, nor did it on intermission leave the stomach quite free from uneasiness; but its remissions and exacerbations, uninfluenced in a great measure either by food or abstinence, were sufficiently characteristic of its nature. In one case, in which the affection had existed for two years, the application of cupping-glasses to the epigastrium was followed by a distinct rigor, and the quinine being then given the pain very speedily ceased to occur. All the patients thus affected had resided for many years in malarious districts, and the great majority of them were from one particular village. They were chiefly females. I shall again allude to these cases when I come to treat of affections of the stomach.

The duration of the *latent period* of intermittent fever is exceedingly uncertain, being apparently very much dependent upon the accidental application of an efficient exciting cause. In all the parts of Ireland with which I am acquainted, intermittent fever, as an indigenous disease, is altogether unknown; but it is occasionally met with among the numerous labourers who annually resort to England at the approach of harvest. In such patients I have known it to occur (generally during, or immediately after exposure to rain and cold) at periods varying from one to nine months after their return home. It is a remarkable fact that even in districts in which, for miles around, the whole surface of the country is covered with peat bogs, and of which many parts, during certain months of the year, are regularly overflowed with water—intermittent fever should never be produced. The preservative power of peat, and of the water which has been any considerable time in contract with it, is well known; and its influence in preventing vegetable decomposition must be very considerable; but how are we to account for the fact that in common meadow land (whatever may be the nature of the soil) intersected by streams which often overflow their banks, and leave stagnant pools behind them, genuine ague should never (I speak only of those parts of Ireland with which I am myself acquainted) be found to exist as an indigenous disease?

As regards the treatment of intermittent fever, I have nothing new to offer; notwithstanding I deem it not amiss to state my manner of precedure in the application of the old and commonly used remedies.

When a case of the disease comes before me, having enquired minutely into its type, duration, &c. I examine carefully the state of the abdominal organs, and, if need be, (which is comparatively rare) those of the chest also. If the disease be recent, and the epigastrium neither full nor tender, I begin by prescribing an emetic, which I repeat or not, as circumstances indicate. If, on the other hand, (which is much more commonly the case), the disease has existed for a considerable time, and the epigastric or either hypochondriac region is fuller than natural, cupping-glasses are ordered to be applied, and afterwards mercurial and saline purgatives are prescribed, until the hepatic and intestinal excretions are brought into a healthy state. As soon as the object is effected, the quinine is given.

When the spleen or liver is felt, or proved by percussion to be, enlarged; or when without such complication, the excretions show a strong tendency to become again disordered, I prescribe with the quinine five grains of blue-pill to be taken every night, or, in some cases, night and morning, administering also an efficient purgative once or twice a week.

The French practice of applying blisters over an enlarged spleen, and dressing the raw-surface with powdered digitalis, appears to me (from what I have witnessed of the effects of the endermic method generally) a highly rational proceeding; and I have tried it with success in a few instances, yet not often enough to speak decidedly as to its merits. I may take this opportunity of stating, that I have found the endermic method of administering remedies, *much more certain as regards the effects*, than the ordinary manner—as indeed might be expected after a just consideration of all the comparative circumstances—and I feel therefore persuaded that it must ere long come into general use.

When the abdominal complications above alluded to have existed for any considerable time, it not unfrequently happens that the patients become low-spirited, and indeed hypochondriacal, requiring not only to be encouraged by confident promises as the ultimate result of their cases; but (what is of more importance still) to have all their present feelings and sufferings patiently attended to, and, if possible, relieved. By neglecting this important duty, medical men have sometimes incurred the unhappy reflection, that they did not do their utmost to lessen and remove that gloom and melancholy which ultimately led to suicide on the part of the patients.

Malignant or pestilential intermittent fevers (*les fievres intermittentes pernicieuses* of the French; the febres perniciosæ of Torti and other authors), were formerly not uncommon in this country,* and still prevail in many parts of the Continent, particularly in Italy. They occur in patients whose general functions have been deranged, and whose blood has been rendered impure by long-continued residence in an unhealthy malarious district; and it is to such a state of the system, and the congestions necessarily consequent upon it, that their malignity is mainly or, indeed, altogether attributable. This is the form of intermittent fever in which a combination of tartar-emetic and opium,† as recom-

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* Vide Sir Geo. Baker, in 3rd vol. of Med. Trans.; Huxham in Operibus, *passin*, &c.

† In all diseases in which there is high general action, with a debilitated state of the vital organic powers, the blood is more or less diseased, and local congestions and inflammations are of very common occurrence. In such diseases an efficient yet cautious use of tartar-emetic alone will effect more good than any other remedy whatsoever. But if to the pathological conditions above-mentioned, there is added *an irregularly excited state* of the nervous system, the addition of opium to the tartar-emetic becomes necessary; and thus combined, opium is not only born, but proves eminently beneficial under circumstances in which it could not with safety be given alone. This I can testify from having, during several years past, tried the combination in that form of typhoid fever accompanied with low muttering delirium, which so often supervenes upon pneumonia and other local inflammations, which they occur in debilitated subjects.

The profession is much indepted to Dr Graves for the admirable manner in which he has proved and illustrated the efficacy of tartar-emetic and opium combined, in the treatment of delirium tremens, as well as of fever; but it has often appeared to me strange that Dr. G., who is so well versed in German literature, is not aware of the fact, (and it is certain he is not, seeing that he has not mentioned it,) that in Rust's Magazine for 1831, there is an article by Dr. Thümmel, of Berlin, on the efficacy of tartar-emetic in pneumonia, croup, *and delirium tremens*. In this last disease he recommends the tartar-emetic *to be combined with an antispasmodic*, and the one he prefers is a strong infusion of mended by M. Peysson, is likely to prove most beneficial, whether given as a preparative for the bark, or as an accompaniment to its use.*

I treated altogether twelve cases of intermittent fever, ten of which were of the tertian, and two of the quartan type. Most of these cases had existed for a considerable period (vide tables) before admission, and were more or less complicated with local affections. A few were irregular in the recurrent of their paroxysms, and presented only slight chills, followed by partial flushings, and seldom terminating in perspiration. These were, in general, neglected or mismanaged cases of tertian fever, to which type they still shewed their affinity by an aggravation of their symptoms on alternate days, the intermediate days however, being seldom quite free from their occurrence. But while, in this respect, they approximated to the nature of the quotidian, they affected, on the other hand, an approach to the quartan in the hour of their recurrence, which, though varying considerably, was generally late in the day. All of these cases had had a very protracted existence, and were, as might be expected, tedious of cure. The treatment of them was based on the following indications: first, to regulate and improve the general functions; secondly, to prevent the recurrent of the chills, &c. by the use of bark or quinine, combined generally with mild aperients. Sometimes the liquor arsenicalis was found useful, or (if the patient appeared anæmic) some of the preparations of iron, together with the bark; thirdly, to remove, by appropriate remedies, any local congestion or pain. In two cases, after equalizing the circulation and removing congestion by means of emetics and the application of cupping-glasses, the disease resumed its regular type, the several stages of each paroxysm became complete, and a perfect cure was then speedily established.

Some of the worst and most rapidly fatal cases of phthisis which have come under my notice during the period of my residence in Kent, have occurred in malarious districts, and have been complicated with *irregular* intermittent fever; a fact at variance with the notion of Dr. Wells, who fancied that wherever ague prevails, there consumption is very rarely, if ever, met with. It must not be

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valerian or serpentary. In eight ounces of either of these he dissolves eight grains of tartar-emetic, and prescribes one table-spoonful of the solution to be taken every two hours. The medicine, he says, causes at first—vomiting of a bitter bilio-mucous liquid, then copious exacuations by stool, and, in the space of twelve hours, such a tranquil state of the system that the patient sleeps quietly and refreshingly for several hours together. By continuing the use of the remedy for two days, a perfect cure (vollhommne besserung) is, he assures us, effected. Two cases are related, and two others are referred to, as proving the truth of his statements.

Here then we have tartar emetic, combined with an antispasmodic, strongly, and on good grounds, recommended as a most efficient remedy in delirium tremens. How easy and natural the step from this to a combination of it with opium, the best of antispasmodics, and at the same time of tried efficacy against the disease in question! Far be it from me to insinuate that such was the process by which Dr. Graves was led to employ the remedy in the form recommended by him. My only object is to shew that the latter step in the discovery, as it was one of no difficulty, so ought it not to be regarded as of equal importance with the former. This will be admitted with peculiar readiness by those who think, with me, that the tartar-emetic *of itself* is a most invaluable remedy in the treatment of delirium tremens.

I may take this opportunity of stating futher, that I have found this powerful and highly manageable medicine, whether alone or in combination with opium, as circumstances indicated, to be signally useful in the treatment of diabetes.

* The bark and tartar-emetic must not be given *in combination*, as the latter is decomposed by the former.

imagined, that I have mistaken the chills of phthisis for those of ague. This is an error which none but a very inexperienced person indeed could fall into. In such cases, I always found that the patient's state was rendered much more comfortable, and his general health slightly and temporarily relieved, by removing (as I have generally succeeded in doing) the aguish symptoms.

To illustrate more clearly the manner in which the several *local* complications that presented themselves in my aguish patients, were attended to, I shall give a succinct detail of seven cases (including the two of quartan fever) which I have selected for that purpose.

CASE 1.—J. A. labourer, æt. 20, admitted May 6th.

Symptoms.—Experiences every morning about 8 o'clock a chill, which on alternate days lasts nearly an hour and an half, and is followed by pyrexia of about 4 hours' duration; after which a profuse perspiration breaks out over the whole body. On the intermediate days, the duration of the stages is considerably shorter, and the symptoms attendant upon them are much less severe. Conjunctivæ yellow; epigastrium painful, but neither full nor tender; bowels costive; tongue furred; pulse (towards decline of hot stage) 100, soft and full.

Disease commenced three months since, but in consequence of his taking pills given him by a non-professional person, has at different times ceased for periods varying from a few days to nearly a fortnight.

Pulv. ipecacuanhæ. xxv. vespere.

May 7th. A lengthened paroxysm this morning, beginning at 8 o'clock.

Pil. hdy. c̄ col. gr. x. singulis noctibus.
Haustus Catharticus cras mane.

8th. No paroxysm. Medicine operated freely; evacuations dark, and offensive,

9th. A lengthened paroxysm this morning, beginning a little before 8 o'clock.

Pulv. ipecacuanhæ, gr. xxv. vespere.
Cras mane, sumat Pulv. quiniæ sulph. gr. iij. et repetat ter in die.

10th. A milder paroxysm this morning, beginning exactly at 8 o'clock. Epigastrium now feels full.

C. C. c̄ ferro, epigastrio. Persistat in usu quiniæ sulph.

After this date no paroxysm occured; but on the 16th, the stomach being disordered, with foul tongue, another emetic was given. On the 20th the patient was discharged cured, with directions to return to the hospital in case the disease recurred; but he did not again present himself.

Remarks.—This was a case of what is called "double tertian," there being a paroxysm every day, but those on alternate days only corresponding in duration and severity. In its recurrence at so early an hour in the morning, the disease approximated to the character of the true quotidian, the existence of which as a distinct type is questioned by some authors; and is undoubtedly very rare. The stomach, in the present case, was much disordered, but greatly relieved by the emetics. After that given on the 7th, a day passed without any paroxysm whatever. This effect I have often seen to follow the employment of an emetic. As soon as the epigastrium was felt to be full, cupping-glasses were applied; and, the fulness subsiding, I did not afterwards hesitate to prescribe another emetic. With the exception of the nights on which the emetics were administered, the purging pills were given every night during the patient's stay in the hospital.

CASE 2.—S. C. an unmarried female. æt. 22, admitted May 20.

Symptoms.—Early in the afternoon of alternate days, she experiences a sensation of chilliness, which, lasting from half an hour to nearly an hour, is succeeded by flushes of heat, generally partial, and continuing for a space of between two and three hours. After this, partial perspirations appear on different parts of the body. General health much impaired; countenance sallow; temples affected with a severe throbbing intermittent pain, which occurs at irregular periods; dull aching pain of left side; epigastrium soft; tongue furred; bowels costive; pulse (during intermission) 82, feeble; catamenia profuse, occurring usually after an interval of scarcely a fortnight, and continuing during the greater part of a week.

Disease has existed five months.

Treatment.—For six days after admission, the patient took, three times in the twenty-four hours, a mixture containing sulphate of magnesia, infusion of senna, and infusion of quassia. This brought away daily, two or three stools, at first dark and offensive, afterwards highly charged with bile. On the 26th, two grains of quinine were ordered to be taken three times a day, the mixture being still continued. On the 28th, the mixture was omitted, and ten grains of alterative powder prescribed to be taken every night. On the 30th, the pain in the temples being very severe, an emetic was administered: it operated freely, and from that moment the pain entirely ceased. On the 4th of June, irregularly occurring chills being still occasionally felt, five drops of liquor arsenicalis were ordered to be taken in distilled water three times a day, the quinine being still continued. On the 13th of June, a blister was applied to left side, which still continued at times painful. The stomach feeling uneasy, the liquor arsenicalis was omitted on the 20th of June, and the patient was discharged cured on the first of July, the general health being then quite re-established.

Remarks.—The digestive organs being very much out of order, I, for some days, confined my attention in a great measure to them, prescribing, in small and frequently-repeated doses, purgatives combined with a bitter—a mode of treating chronic disorders very common among the older physicians, and well deserving of imitation. Even after the use of the quinine was commenced, I deemed it advisable to continue a little longer the purgatives; and on omitting them, two days afterwards, a full dose of the alterative powder was ordered to be taken every night. It is worthy of observation that after the bowels were thoroughly cleansed, and brought to act regularly and efficiently, the catamenial discharge became less frequent, and less profuse; and this amendment had continued when I heard of the patient six months after she had left the hospital. I have often indeed found that a menorrhagia which had resisted all the usual remedies, has yielded speedily on purging the patients well with salts and infusion of roses. When this symptom exists independently of any discoverable uterine cause, the intestinal secretions are, I believe, very generally depraved, the large intestine being at the same time loaded with fæces.

The effect of the emetic in relieving the pain of the temples was both speedy and decided.

The pain on the left side being sympathetic, must have ultimately yielded to the general treatment; but as the patient often complained of it, and as it was possible the spleen, though not enlarged so as to be felt, might yet be the seat of congestion, a blister was applied, and the pain in consequence altogether ceased.

It is chiefly in *irregular* ague that the liquor arsenicalis is found to be serviceable. I prescribed it in the present case for rather more than a fortnight, but discontinued it the moment that gastric uneasiness was complained of. I never trust to it alone, but prescribe with it either the bark or quinine, even in those cases in which one or other of these has already been repeatedly given without affecting more than a temporary cessation of the paroxysms.

CASE 3.—O. W. labourer, æt. 19, admitted June 3rd.

Symptoms.—Chilliness, followed by flushes of heat and partial perspirations, occurring daily between twelve and one o'clock, but severe and of longer duration on alternate days; dull confined pain of head; countenance pale and slightly bloated; skin of a waxy appearance; action of heart much increased and irregular; epigastrium soft; tongue clean; bowels costive; pulse 90; feeble.

Disease has existed five months.

Treatment.—Pulv. ipecac. ℈j. vespere, et postea pediluvium.
Haust. catharticus cras mane.

June 6th. A paroxysm each day since admission, those on alternate days corresponding. Bowels now regular in their action.
Capiat ter de die, pulv. cinchon. rubr. ʒj.
Singulis noctibus, sumat pil. hyd. c̄ col. gr. v. vel. gr. x.

8th. Throbbing pain of head.
Vomitorium vespere.

After this the head remained free from pain, but the paroxysms did not altogether cease till the 12th, when the patient's general health began rapidly to improve. On the 22nd he seemed fit to be discharged, but on the following day he complained of pain in the right groin, the glands of which we found to be enlarged and very tender, requiring the application of leeches. He subsequently suffered from severe pains in the loins; and his heart, which had for some time been quiet, began again to be tumultuous and irregular in its action. On the 7th of July, he had a convulsive fit, resembling that of epilepsy, but without foaming at the mouth. On its cessation he remained for several hours in a soporose state. Cupping-glasses being applied to the region of the heart, its action became more tranquil and regular; and, the fit not returning, the patient was discharged cured on the 22nd of July.

Remarks.—This also was a case of *double tertian*, which yielded without much difficulty to the remedies employed. The patient's stay in hospital was much protracted by the superinduced affections of the groin and loins, as well as by the recurring irregular action of heart, and the convulsive fit consequent thereupon. The patient, on being strictly questioned, acknowledged the correctness of a suspicion which I had for some weeks entertained—that he was addicted to a disgusting and baneful practice.

CASE 4.—J. C., labourer, æt. 29, admitted August 12.

Symptoms.—Countenance heavy and vacant; pupils contracted; acute and constant pain in head; nausea and occasional vomiting; pulse 90, sharp; tongue furred; bowels open; urine high-coloured and scanty.

Rather more than a fortnight since, while working, with his head uncovered, under an intensely hot sun, experienced suddenly, nausea with a sense of great weakness, and a few minutes afterwards was attacked with a convulsive fit, resembling, according to his own account, that of epilepsy. This has since frequently recurred, lasting generally about half an hour. On the morning after the first attack, he was seized with a rigor followed by heat and perspiration, which has since several times returned, but he cannot state whether at regular or irregular intervals.

Treatment.—Abradatur capillitium, et, calore preter modum aucto, adhibeantur capiti lintea in aqua frigida immersa.
Ext. colocynth. comp. gr. v. Hyd. submur. gr. v. fnt. pil. ij. h. s. sumendæ.
Haust. cath. cras mane.

These remedies were repeated on the 13th, and again on the 14th.

16th. Since admission, has had an ague fit every second day, the accession varying from eleven to one o'clock. Head much relieved by purgatives. Epigastrium tender and full, but not tense.
C. C. c̄. ferro, epigastrio.
Pil. hyd. gr. v. singulis noctibus.

18th. No rigor; pain of head quite gone; countenance more animated; pulse 82, soft; bowels open; tongue moist; urine deposits a copious sediment.

20th. No return of rigor or head-ache. Pulse feeble.

Sumat bis die quiniæ sulph. gr. v.

22nd. Epigastrium still full and tender.

Applicentur C. C. c̄ ferro. Persistat in usu quiniæ sulph.

The improvement from this date was rapid, and the patient was discharged cured on the 3rd of September.

Remarks.—In this case, the *exciting* cause of the intermittent fever was, in all probability, the *coup de soleil* to which the patient was exposed on the day previous to its first accession. The head-affection claimed of course my first care, and the means resorted to were found sufficient to subdue it without having recourse to blood-leeting. It is worthy of remark that, in consequence of the cupping and purgation, the paroxysms had ceased during a period of four days before the quinine was given; but they would undoubtedly have recurred had the specific remedy not been resorted to. I have again and again succeeded by the removal of local congestions, in stopping for a time the paroxysms, but, the specific being withheld, they have invariably, after a longer or shorter interval, returned.

CASE 5.—W. W., laboured, æt. 41, admitted April 11, 1837.

This was a case of tertian ague complicated with bronchial catarrh, both induced, three weeks previously to admission, by the patient's sleeping in a damp bed. His general health was much impaired, the countenance being sallow, the skin harsh, and the pulse feeble. There was troublesome cough with profuse expectoration of a thin albuminous-looking matter.

Treatment.—This for the first three days consisted of an emetic, a blister to the chest, purgatives, and an opiate in combination with blue-pill each night at bed-time. On the 14th, the quinine was administered, and from this date the patient's recovery progressed daily. He was discharged cured on the 2nd of May.

CASE 6.—J. D. æt. 13, admitted December 2nd.

Symptoms.—A chill, followed by heat and perspiration, recurring every third day, about 5 o'clock, p. m., the paroxysm lasting till 7 or 8 o'clock the following morning. Countenance sallow and bloated; lower extremities and scrotum œdematous; abdomen soft; tongue clean; bowels regular; pulse 110, feeble.

Disease began as a tertian intermittent about five months ago, but has for more than half that time presented the quartan type.

Treatment.—Pulv. ipecac. gr. xv. vespere.

Haust. catharticus cras mane, nisi vomitorium inferiorem ventrem expurgaverit.

Purgatione finita, sumat quiniæ sulph. gr. ij. 6ta q. q. hora.

Only two paroxysms occurred after admission, namely, one on the third, and the other on the 6th. In addition to the quinine powders, I prescribed, on the 8th, small doses of the tinct. ferri. mur. in infusion of quassia also five grains of the alternate powder, to be taken every night at bed-time. By means of these remedies, and a generous diet, the patient's strength increased daily, the œdematous state of the lower extremities and scrotum gradually disappearing. He was discharged cured on the 23d, and was to have left the hospital on the following day; but the roads being obstructed with snow, his disappointment at the delay brought on headache and great depression of spirits, which rendered a temparary suspension of his tonic medicines advisable. They were resumed on the 31st, and he returned home on the 13th of January, his health being perfectly re-established.

CASE 7. E. G., a married female, æt. 34, admitted an out-patient Dec. 2nd.

Symptoms.—General chill, succeeded by flushes of heat and perspiration, recurring every third evening at 7 o'clock, the paroxysm lasting until about 9 on the following morning. Complexion of a dusky sallow hue; lower extremities anasarcous; abdomen contains fluid; bowels costive; excretions unhealthy; tongue clean; appetite impaired.

Three years and a half ago became subject of tertian fever, which at first was very imperfectly treated. It continued to affect her at times until May last, when, as an out-patient at the hospital, under my care, she was apparently cured, and remained indeed quite well until about two months since, when the disease again shewed itself, but under the quartan type. Anasarca of lower extremities and swelling of abdomen have existed four weeks.

Treatment.—Pil. scillæ co., Pil. hydrarg. āā ʒj. M. fnt. pilulæ xxiv. sumat duas singulis noctibus et unam singulis matutinis.

Pulv. cinchon. ʒj. pot. nit. gr. x. ft. pulvis, 6ta. qq. hora sumendus

Dec. 16th. Mouth became affected four days ago, since which no paroxysm. General health improved. Pills have been omitted.

Persistat in usu pulv. cinchonæ, et potassæ nitratis.

23d. Mouth now nearly well. Paroxysms have not returned. Anasarca of lower extremities has completely disappeared, and abdomen no longer fluctuates. General health much improved; complexion has in a great measure lost its dusky hue; tongue clean; bowels regular; appetite good.

She was discharged cured on the 30th of the same month.

Remarks.—Was the disease in this case the mere posthumous offspring (if I may use such an expression) of the former long-existing tertian? or was it entirely new production, the result of a fresh application of the morbific poison? I am inclined to look upon it in the latter light, both on account of the long period intervening between the cure (to all appearance perfect) of the tertian, and also because of the last attack occurring at a season of the year so favourable to the production of original quartans But the fact is one which cannot, I think, be unquestionably determined.

The anasarcous condition of the lower extremeties, the fluctuations felt in the peritoneal cavity, the state of the excretions, the dusky sallow hue of the skin—all convinced me that the liver was to a comsiderable extent implicated. I prescribed therefore the blue-pill combined with a diuretic; and as the patient's strength was much reduced, and there was neither headach nor heat of skin, I lost no time in commencing the use of the bark, which was given in combination with nitre, a very old formula, and one which appeared to me well adapted to the present case. As soon as the mouth became affected (and not till then) the paroxysms ceased. From the same moment the anasarca began to decline, the complexion to become clear, and the general health to improve; and the patient when discharged (four weeks after her admission), appeared, as it were, a totally different person.

Western Lying-in Hospital and Dispensary,
(Arran-Quay, Dublin.)

Medical Report by Fleetwood Churchill, M. D.,
Physician Accoucheur.

Dr. Churchill has forwarded to us two Reports—one for the year comprised between the dates Oct. 31, 1835, and Nov. 1, 1837—and a second for the period extending from Nov. 1, 1836, to Dec. 31, 1837.

We fear that our limited space will not permit us to insert both Reports in full, but we shall feel great pleasure in laying the second before our readers, and we shall feel equal pleasure in presenting condensed reports of the practice of Dr. Churchill in this lying-in institution on future occasions. There is no department of our science which merits more attention than obstetrical, none possessed of more practical importance, none involving higher or more interesting questions.

It appears that the Western Lying-in Hospital and Dispensary was established in the Autumn of 1835, for the purpose of receiving, or attending at their own homes, the poor females of the western parishes.

It was set on foot mainly by the clergymen of these parishes, and by them, in conjunction with several laymen and a committee of ladies, it is managed.

It is supported by donations, subscriptions, and the collections made after charity sermons in the parochial churches, in addition to the fees paid by pupils, the right to which has been made over to the committee by the medical officers, for the purpose of perfecting and extending the hospital accommodations.

Between Nov. 1, 1835, and Oct. 31, 1836, 247 women were relieved—of the 97 were received into the hosprtal, and 150 attended at their own homes. There were eleven cases of abortion, leaving 236 cases of labour, and these 236 cases produced 249 children, there having been four cases of twins.

Having thus explained the nature of the institution, and the number of patients treated in the first year, we shall insert Dr. Churchill's Report for the second year.

This Report will include a period of fourteen months, *i. e.* between Nov. 1, 1836, and December 31, 1837.

During this period 391 females have derived assistance from the hospital: of these 128 were intern and 263 extern patients. From this number we must deduct 21 cases of abortion and one case of uterine hydatids, which will leave 269 cases of labor at the full term of utero-gestation.

The number of children born, amounted to 376, of which 206 were males and 170 females. 18 of them (17 male and 11 female) were still-born, or died immediately after death; of these 28,

5 were premature.
2 — breech presentations.
2 — footling presentations.
2 were funis presentations.
1 was a footling case with prolapsed funis.
1 was covered with syphilitic eruption.

We obtained the ages of 313 as accurately as possible, there were

21 cases under 20 years
97 — between 20 and 25
106 — — 25 — 30
42 cases between 30 and 35
42 — — 35 — 40
2 — — 40 — 50

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It is not always possible to ascertain the exact commencement of labor, and where any cases were doubtful, they have been omitted in the registry. For this reason I can only give the duration of labor in 299 cases instead of 369.

In 65 cases it was under	6 hours.	In 7 cases it was under	48 hours.
93 — —	12 —	5 — —	60 —
105 — —	24 —	5 — —	96 —
18 — —	36 —	1 — —	120 —

It may be as well to mention that the great length of time some of the labors were allowed to continue, did not arise from the neglect of the medical officers, but from the patient's deferring so long her application for assistance.

The interval between the setting in of true labor pains and the rupture of the membranes has been carefully noted in 271 cases.

In 60 cases it was about	2 hours.	In 3 case it was under	30 hours.
58 — —	6 —	6 — —	35 —
41 — —	10 —	1 — —	40 —
47 — —	14 —	4 — —	50 —
20 — —	18 —	1 — —	60 —
12 — —	22 —	3 — —	80 —
14 — —	26 —	1 — —	108 —
		271	

In the same number of cases, the interval between the rupture of the membranes and the birth of the child was as follows:—

Under 1 hour in	136 cases.	About 15 hours in	9 cases.
About 2 —	40 —	— 20 —	3 —
— 4 —	46 —	— 25 —	5 —
— 6 —	19 —	— 35 —	1 —
— 8 —	7 —	— 40 —	1 —
— 10 —	3 —	— 50 —	1 —
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From the birth of the child to the expulsion of the placenta, there elapsed

In 69 cases	5 minutes.	In 3 cases	50 minutes.
— 54 —	10 —	— 11 —	60 —
— 63 —	15 —	— 15 from	1 to 2 hours
— 39 —	20 —	— 2 —	2 — 3 —
— 3 —	25 —	— 2 —	3 — 4 —
— 31 —	30 —	— 4 —	5 —
— 7 —	35 —	— 1 —	6 —
— 9 —	40 —	— 1 —	8 —
		314	

The cases in which so long an interval occurred between the expulsion of the child and the placenta had all been managed by midwives, who made application for assistance on account of the retention of the placenta.

In 358 cases the presentation was as follows:

— 331 it was natural.
— 4 the hand descended along with the head
— 9 the breech presented.
— 10 the feet—in three of which the funis prolapsed.
— 2 the funis presented.
— 2 the arm.

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I have already mentioned that of the breech cases 2 were lost:—of the footling, 3:—of the funis 2:—of the arm presentations one child was extracted alive, and the other was still born.

There were 7 cases of twins, their sexes were

In the 1st case		2 males.	
— 2nd —		2 —	
— 3rd —		1 —	1 female.
— 4th —		2 —	0 —
— 5th —		1 —	1 —
— 6th —	(premature)	0 —	2 —
— 7th —		2 —	0 —
		10 males.	4 females.

Of these one male and two females (premature births) were still-born or died immediately after birth.

As to the presentations in these cases:—in four cases both the children presented naturally, and one child was lost;—in the fifth case, one child presented the breech and the other an arm;—in the sixth case, one child presented naturally, and the other was a breech presentation; in these two last cases all the children were saved;—in the seventh case, the presentation of one child was natural, and the hand of the other descended alone with its head; both children were lost, as the labor was premature. In five cases hæmorrhage occurred before the expulsion of the placenta; and in four of them, that organ had to be extracted. The flooding produced no unfavourable results.

One patient was threatened with convulsions, but by the timely employment of antiphlogistic measures, she escaped.

In three cases, version was practised with considerable success. All the mothers recovered, and one child was saved.

The forceps were once successfully applied, both mother and child recovered.

In one case, the use of the perforator was required from the narrowness of the pelvis—the patient recovered.

Out of 391 females, three only died, and two at least of these, who were externs, were indebted rather to the mismanagement of friends, than to any accident of labour, for the fatal result. The third sank from the effects of the shock of a tedious labor upon a constitution debilitaed by severe pulmonary disease. These cases will be related in a subsequent part of this report.

During the past year, we have had no cases of puerperal fever among either the extern or intern patients. In a few cases, the patients were attacked with intestinal irritation, or threatened with hysteritis, but by judicious and prompt treatment the symptoms subsided. In one case these symptoms were more severe, and terminated in the evacuation of a pint of purulent matter from the uterus "*per vaginam*."

The measurement of the navel-string has been continued, but as the results only confirm the opinions advanced in a paper "On the Length of the Cord, &c." which I published in the Dublin Journal for March, 1837, the details are here omitted.

So far I have confined myself to a statement of facts taken from the hospital registry, but it may be useful to enter into somewhat more detail upon some of the cases and observations.

During more than half of this last year, two very intelligent pupils of mine (Mr. Gray and Mr. Gibbon) kept registries of several important points in the history of natural labor, concerning which some statistical information seemed desirable. We endeavoured, by taking down a number of cases, to ascertain the effects of the nervous shock upon females of different temperament after labor of varying duration. The pulse was examined just before delivery and at short intervals afterwards, and its alterations noted. The changes in the colour, consistence, and quantity of the lochial discharge, were observed. The gradual and regular contraction of the uterus was remarked, and the period of the secretion of milk entered in the registry. By comparing these observations we were enabled, not only to ascertain with considerable accuracy the progress of convalescence after natural labor with the normal succession of phenomena, but were also made acquainted with certain deviations from the natural order, which were of some importance, though involving no organic lesion. The results of their registries, and of our observations, were published in the Dublin Journal for September, 1837.

Tedious Labor. In the report of the hospital for 1835-6, I took occasion to allude to the influence which the length of the first stage has been supposed to exercise upon the entire process, and upon the well-being of mother and child.

Taking the rupture of the membranes as the limit of the first stage, (which is generally though not always the case,) and referring to the tabular view I then gave of the intervals from the commencement of labor to the rupture of the membranes, and from the rupture of the membranes to the expulsion of the child, I observed—

"1st. That the length of the period after the evacuation of the liquor amnii bore no proportion to the time which elapsed previously;" and—

"2dly. That the constitutional effects of labor are not to be estimated by the length of the first stage," &c. &c.

In order to bring these opinions to the strong test of statistical enquiry, I have this year taken (but not selected) 21 cases of tedious labor, the duration of which was 36 hours and upwards, and the details of which are minutely noted in the registry, and I have marked the duration of the 1st and 2nd stages of labor in each case respectively, with the results of the labor to the mother and the child.

1*st Group*—9 *Cases of Labor, of* 36 *hours' duration.*

No. of Cases.	Length of 1st Stage.	Length of 2d Stage.	Results to Mother.	Results to Child.
In 5 cases	35 hours	1 hour	Favorable	Favorable
2 do.	34 do.	2 do.	do.	do.
1 (premat.)	32 do.	4 do.	do.	Dead.
1 case	25 do.	11 do.	do.	Favorable

2*d Group*—4 *Cases of Labor lasting* 48 *hours.*

No. of Cases.	Length of 1st Stage.	Length of 2d Stage.	Results to Mother.	Results to Child.
In 1 case	47 hours	1 hour	Favorable	Dead—funis presentation
1 do.	47 do.	1 do.	do.	Favorable
2 do.	45 do.	3 do.	do.	do.

3*d Group*—6 *Cases of Labor of* 60 *hours.*

No. of Cases.	1st Stage.	2d Stage.	Results to Mother.	Results to Child.
In 3 cases	59 hours	1 hour	Favorable	Favorable.
1 do	57 do.	3 do.	do.	do.
1 do	53 do.	7 do.	do.	do.
1 do	39 do.	21 do.	do.	do.

4th Group—3 Cases of 96 hours.

Nos. of Cases.	1st Stage.	2d Stage.	Results to Mother.	Results to Child.
In 1 case	95 hours	1 hour	Favorable	Favorable
1 do.	93 do.	3 do.	do.	do.
1 do.	90 do.	6 do.	do.	do.

The importance of this small series of well-authenticated facts will be at once perceived, and its bearing upon the recent controversy between Dr. Hamilton of Edinburgh, and Dr. Collins of this city, on the consequences of allowing the first stage of labor to exceed a certain time. As far as they go, they are diametrically opposed to the conclusions put forth by the former distinguished author. In none of these cases did the extraordinary length of the first stage "render the powers of the uterus inadequate to expel the infant with safety to its life or to the future health of the patient;" for out of 21 cases of tedious labor in the first stage, in only one instance did the 2nd stage exceed eleven hours; in 17 it was completed in three hours: none of the mothers were injured, and only two children lost, one of which was premature, and the other a funis presentation, and both deaths consequently independent of the duration of the labors. Neither did the secondary evils, "retention of the placenta, fatal hæmmorrhage, or febrile and inflammatory affections," follow such prolonged first stage, for every one of the women recovered well. Then I would conclude that the duration of the second stage, and the results of the entire labor, have no relation to the length of the 1st stage, and further, we have at least negative evidence that it is upon the 2nd stage that the character of the labor and its result depends, for out of 21 very tedious labors, there was not one tedious convalescence—but then in all but one the second stage was short.

The *causes* of delay were such as are enumerated in standard works on the subject—premature evacuation of the liquor amnii—rigidity of the soft parts—depression of the anterior lip of the os uteri (*Hamilton*), &c.; and the treatment was in accordance with the recommendation of writers of authority.

One of three fatal cases, was a case of tedious labour. At the same time, in accounting for her death, it must not be forgotten that she had suffered from a severe pulmonary complaint before and during parturition. She was admitted into hospital on the evening of the 8th of April, 1837 She had some pains, which completed the first stage in 26 hours, without the slightest exhaustion or acceleration of pulse. The progress of the head, after it entered the pelvis, was slow though perceptible for the next twelve hours, but as the 2nd stage was so prolonged, it was deemed advisable to call in the consulting accoucher (Dr. Darley), who gave it as his opinion, that the patient's strength was adequate to the delivery without assistance. In this he was right, for in two hours afterwards a male child was born, and the after-birth was expelled in half an hour. The pulse immediately after delivery was about 120, and she seemed much exhausted by the length of the labor and by her cough. She sank on the third day without any very marked symptoms. We could not obtain a necroscopic examination.

Version Cases. It was found necessary to extract the child by the feet in three cases. In the *first* case the arm presented with a loop of the funis. The waters had been discharged an hour and a half before assistance was obtained, and the uterus was acting briskly. Mr. Speedy succeeded, with some difficulty, in extracting the child, which was still-born. The woman recovered well. The *second* case was one of twins; the first child presented naturally, and was born after a short labor, but on making a vaginal examination, Mr. Speedy found a second, presenting an arm; he turned the child instantly, and succeeded in extricating it alive. The operation was facilitated by the previous transmission of the first child through the passages. Both the children with their mother did well.

In the third case I operated myself. It was a funis presentation, admitted into the Hospital June 12, 1837. The waters were evacuated about 3 p. m. and then the prolapsed end was discovered. On my arrival at 4 p. m. I found the funis still pulsating, and as the woman seemed well formed, I determined to attemp to save the child by turning. The extraction was executed with sufficient rapidity, until the head arrived at the upper strait, but so much delay then took place that the child was lost. The woman recovered.

Forceps Case.—But one forceps case accurred out of 391 patients; it is entered in the case book as follows:—M. Broberick, æt. 28, was taken in labor of her first child at 2 p. m. June 28, 1837. The midwife in attendance sent for the assistant-surgeon (Mr. Speedy,) of the hospital, to pass the catheter at 5 p. m. June 29. Upon inquiry, he found that the "waters" had been discharged at 3 a.m. that morning, and that the head shortly afterwards descended into the pelvis. A pint of high-coloured urine was drawn off, and a purgative enema administered. At nine o'clock the same evening a second visit was paid, but no advance of the head had taken place, so that it had remained in the same situation for at least 12 hours.

The pains had diminished in force and frequency, she was a good deal exhausted, her pulse 120 and weak, skin hot and dry, tongue white, great thirst. A consultation was obtained immediately, and no hesitation was felt in recommending instant delivery. As there appeared no want of the necessary space in the pelvis, it was determined to apply the forceps, and after a short delay, Mr. Speedy succeeded in extracting a living child. The placenta was expelled in 20 minutes. Both mother and child recovered well.

Crotchet Case.—Perforation of the child's head and extraction was performed once under very unfavourable circumstances. The patient Mary Corr, æt. 30, had suffered from ill-health during the latter month of pregnancy. She was taken in labor on the 7th of Sep. 1837, the pains continued for two days moderate, and were gradually increasing in strength, when they were suspended in consequence of a quarrel with her husband. She remained for many hours with but very feeble pains, and probably without any real progress.

On the 12th of Sept. 1837, at 7 a.m., Mr. Speedy was sent for, and he found the head presenting and impacted in the upper strait. The 'waters' had not then been discharged, the bowels were constipated and the urine retained. The pulse were very quick and the skin hot and dry. The catheter was passed and a quart of fætid dark brown urine drawn off, a purgative enema was given and the membranes ruptured; The uterine action received a strong pain recurred every five minutes.

In the evening a consultation was held, and as all the constitutional symptoms were aggravated without the least advance of the head, it was thought hazardous to defer the delivery any longer. The head was lessened and the child extracted in half an hour, followed shortly after by the placenta. The woman recovered without a bad symptom. The history of the early part of this case is as indistinct as the management was mischievous, and owing to the same cause, viz. the stupidity of her female attendants and the drunkenness of her husband.

She was almost delirious from long-continued pain and the incessant teasing of the women, and considering that the operation was performed in a wretched cellar, great inconvenience, and under sundry threats of bodily chastisement from the drunken husband and his fellows, it is a matter of surprise that the case was so successful.

Of the cases of *retained placenta,* two were worthy of notice. The first occurred after a premature labor, and it was found impossible to remove the placenta, although it was very desirable to have done so, on account of a considerable loss of blood We had recourse to the plug which effectually restrained the hemorrhage and enabled us to wait the expulsive action of the uterus. This was not excited till 60 hours after the birth of the child. The woman suffered a good deal from irritative fever, but by strict regimen and antiphlogistic treatment, the patient gradually recovered.

The second case had a less favourable issue, though her labor terminated quite well. She was delivered of twins, in the 7th month of her pregnancy under the care of a midwife. The first child was born after a labour of 24 hours' duration, at 9 a.m. August 10, 1837; and the second at noon on the same day. The first presented with the head, and the second with the head and hand.

Between the birth of the children considerable hemorrhage took place, but it was not until some time afterwards that the midwife sent for assistance. Mr. Speedy found the patient greatly reduced, the surface of the body cold and exsanguined, the pulse almost imperceptible, &c.

As the after-births were still retained, he introduced his hand and removed them, having previously administered a cordial. Two days after, the abdomen became painful and tender and the pulse accelerated. Some ounces of blood were taken, and calomel with opium prescribed. This treatment succeeded and the patient became convalescent on the 17th. That very evening she got out of bed, quarrelled and fought with some lodgers, and took a quantity of whiskey and water. In the course of the night she was attacked with rigors, abdominal pain &c. and the next day presented symptoms of abdominal inflammation with great sinking. In spite of our most diligent efforts she sank during the second night from the last seizure. We obtained permission to examine the abdominal viscera, but after the most diligent search could discover no morbid appearance. There was neither peritonitis, enteritis. hysteritis, nor rupture, so that we learned nothing as to the immediate cause of death.

With regard to the third fatal case—I may add a few words.—She was delivered safely of an acephalous fœtus and was progressing satisfactorily until some imprudent person shewed the child to her. She was taken ill immediately afterwards. and died with symptoms of intestinal inflammation. No '*post-mortem*' could be obtained.

I shall only add one more case—that of uterine hydatids. Ann Curwen, æt. 27, the mother of two children, and generally enjoying good health, menstruated regularly up to the end of August, 1836—the menses ceased after that time, from pregnancy as she believed; about a month afterwards she obtained a slight discharge from the vagina, resembling blood and water, which continued three months or more, up to December 18, 1836, when she was attacked with labour pains, and all the signs of abortion, except that, instead of an ovum, a large basin-full of hydatids was expelled with considerable hemorrhage. She recovered perfectly under the ordinary treatment.

CITY OF LIMERICK INFIRMARY.

INJURIES OF THE KNEE-JOINT.

1. COMPOUND DISLOCATION OF THE KNEE-JOINT.

James Tracy, a labourer, 50 years of age, was admitted to Barrington's Hospital, July 19th, 1836, at 9 o'clock, A. M. He was previously employed taken down part of an old building, on one of the walls of which he was standing, the wall gave way, his right leg was caught between the stones, and he stated that another part of the wall fell on his right thigh which caused him to fall forcibly forwards. He was immediately carried to the Hospital, when great deformity and shortening of the limb was evident. On examination the external condyle of the femur was found protruded downwards, outwards and backwards, through a wound of nearly two inches in extent—the patella and head of the tibia were thrown upwards, inwards, and forwards. There was some bleeding and escape of synovia from the wound. A lacerated wound of the same leg, which laid bare the bone and divided the fascia and muscles, extended nearly from the head of the tibia to the inner malleolus. The dislocation was easily reduced—the limb laid on a long splint in the straight position—and cold evaporating lotions ordered —the wound having been lightly dressed—a consultation was summoned and amputation proposed as soon as reaction was fairly established.

At this time there was little pain or swelling of the limb, and the patient obstinately refused to submit to amputation; under these circumstances I ordered 24 leeches to be applied to the joint, the use of evaporating lotions afterwards, and a mild aperient.

The subsequent details must be compressed. On the 21st, erysipelas made its appearance over the internal malleolus. This was subsequently checked by the application of the nitrate of silver solution. Synovia escaped at intervals from the joint. On the 24th he had a rigor. On the 26th pus escaped from the joint. On the 3rd of August, an abscess was opened on the outside of the knee-joint. The patient again refused amputation. On the 7th, another abscess was opened on the inside of the knee. On the 8th, a considerable arterial hæmorrhage took place from the joint. The tourniquet was applied, and amputation again recommended, and again refused. The limb grew black, and, at 6 A. M. next day, the patient died.

Dissection.—The leg appeared to be connected with the thigh, only by the integuments and the rectus and femoris muscle, which was uninjured—the lateral, crucial and posterior ligaments were torn, the latter from its attachment to the back of the external condyle of the femur which was rough for about the size of a shilling, as well as the corresponding part of the internal condyle, from which the inner head of the gastrocnemius muscle appeared to be torn—the synovial membrane was thickened and pulpy, and strained from the extravasated blood. There was an opening in the popliteal artery, more than half an inch long by nearly a third of an inch broad—the edges of the opening were thin and uneven. The vein and nerve were uninjured.

II. Incision into the Knee-Joint.—Recovery.

Patrick Giltename, ætat 30 years, a very tall muscular man, was admitted 14th July 1834. He stated that, about six months previously, he fell while running quickly, and that his right knee was violently turned in, which caused great pain and swelling immediately and obliged him to remain in bed for some days, during which time he used warm stupes. Subsequently a medical man recommended him to rub the joint with a liniment. He recovered so far as to be able to walk about—the knee however continuing enlarged—until a week since, when he was suddenly attacked with severe pain and swelling of the same knee without any evident cause—it was again stuped but without relief. On admission the inflammation was considerable and principally on the inner side of the point where there was some redness of the skin, but little increase of pain on pressure—the patella was elevated evidently by effusion into the joint. Leeches were applied and the usual antiphlogistic treatment adopted for some days with much benefit. Another surgeon saw the patient on the 21st, who thought that the swelling was caused by effusion into, or thickening of the coverings of the joint, and was anxious to make an incision through the integuments to satisfy himself—he however continued the incision for nearly an inch in length into the joint, and gave exit to a considerable quantity of turbid synovia, with flakes of coagulable lymph. The incision was closed by adhesive plaster. During the five or six following days, synovia and lmyph escaped from the joint in small quantities, but there was no pain or inflammation. On the 30th July the report states that the incision was completely united, but the joint was still longer than the corresponding one of the other limb. He was discharged cured on the 18th of the next month, and has continued well since.

III. WOUND OF THE KNEE-JOINT—RECOVERY.

Pat. Conners, aged 18 years, admitted 14th July, 1836. A servant states that, while employed cleaning knives three weeks ago, one of them fell, and the point entered his left knee-joint on the inner side of the patella, inflicting a wound about half an inch in length—there was some trifling bleeding at the time—he bandaged it up, paid little attention to it, and continued to work for five or six days, when, in consequence of the great increase of pain and swelling, he was obliged to give over, and was recommended to apply poultices to the wound. He was at this time admitted to an hospital, where he remained twelve days—he became dissatisfied, and caused himself to be removed to Barrington's Hospital.

On admission, there was considerable swelling of the entire joint—great heat and tenderness—and pain much increased on the slightest attempt to move the limb. The wound was ununited and covered by fungous granulations. The limb was placed on a straight splint—leeches and cold evaporating lotions frequently used—by which means the inflammation was subdued in a few days: the joint however continued enlarged about the wound, from which some purulent matter escaped for four days, when it ceased to flow—it appeared to come from the neighbourhood of the wound—and for ten days afterwards a small quantity of synovia escaped at each dressing, diminishing in amount daily, the wound continuing fungus; it however soon healed up, when the splint was removed, as the joint was stiff, and still a little enlarged. Blisters were now applied, and the blistered surface dressed with mercurial ointment. Frictions with stimulating liniments were subsequently used, and he left the hospital on the 21st of the next month.

I again saw this young man in the month of December following, at which time he could walk pretty well without assistance, had no uneasiness in the knee; it was however still somewhat stiff, and he could not straighten it perfectly, on account of the contraction of the hamstring muscles.

IV. WOUND OF THE KNEE-JOINT.—DEATH.

This case was one of a lacerated wound from the explosion of gunpowder. Suppuration ensued, after some bad treatment on the part of a quack, and on the 24th day the patient died with hectic symptoms. He obstinately refused amputation throughout.

V. WOUND OF THE KNEE-JOINT—FATAL HÆMORRHAGE FROM THE POPLITEAL ARTERY.

James Connors, 18 years old. I saw this man for the first time Jan. 2nd, 1838. It appears, that on the 24th of last December he was leading a horse, when by some accident, he was thrown down and the wheel of the cart passed over his right knee, inflicting a severe lacerated wound nearly two inches long, which opened the joint. Symptoms of inflammation quickly set in, with discharge from the joint, at first of synovia, but which soon became purulent. When I examined him, I found a very large abscess over the head of the tibia, which I opened. The lacerated wound was fungous; there was not much swelling of the joint, but it was very painful, and there was great constitutional disturbance. Fistulous opening subsequently formed at different parts of the joint, which discharged considerable quantities of pus, accompanied by the usual symptoms of hectic.

Jan. 12th. The discharge from the original wound, as well as from the openings in the joint, has nearly ceased.

Jan. 19th. His appetite and general health has improved—there is not any discharge from the joint, but it appears weak, as if the ligaments were destroyed. As I had some expectation at this period that anchylosis of the joint might take place, a splint was placed behind the knee, and bandages applied—the lacerated wound however still presented a fungous appearance.

Jan. 22d. While the limb was being dressed this day in my absence a profuse arterial hæmorrhage suddenly took place from all the openings about the knee;—it was arrested as soon as possible by the application of a tourniquet. On my return to town, I found the patient very weak and restless, the limb cold and swollen from the tourniquet.

The patient having consented to amputation, I summoned the other surgeons of the hospital, and removed the limb. A little bleeding occurred in the evening, and the stump was re-opened—a large bed-sore formed—it sloughed—and, on the 12th of February, the patient died.

On examining the amputated limb, I found the synovial membrane in most places destroyed—a large cavity filled with blood extended three or four inches along the back of the femur, between that bone and the muscles—there was scarcely any trace of the posterior ligament of the joint—the entire of the cartilage covering the articulating surfaces of the condyles of the femur and of the head of the tibia was removed, as well as the intercuticular cartilage. The crucial ligaments were apparently uninjured, and the posterior part of each of the condyles of the femur was carious for about the size of a shilling, particularly the outer condyle. There was a small opening about the fourth of an inch in length on the anterior surface of the popliteal artery. exactly opposite the carious spot on the back of the outer condyle, with which it appeared in contact, and from which the hæmorrhage had evidently come.

ST. BARTHOLOMEW'S HOSPITAL.

I. CLINICAL REMARKS BY MR. LAWRENCE ON THE BEST MODE OF TREATING ENCYSTED TUMORS OF THE EYELIDS, CONTAINING HAIR.

A young child was taken to Mr. Lawrence with a tumor in the neighbourhood of the external canthus of the eye. It was about the size of a horse-bean, forming a colourless elevation, with the integuments covering it loosely, so that they could be pinched up into a fold over the swelling, which was more fixed below. It was placed immediately behind, and a little above the junction of the lids; and was said, by the mother, to have been there from the time of birth. On performing the operation, the tumor was found covered by the orbicularis palpebrarum, and closely adherent to the external angular process of the frontal bone. The following practical remarks of Mr. Lawrence are worth noticing.

" Such tumors are not unfrequent in infants and young children, occupying the situation just described. I believe them to be congenital; at least the statement of the mother generally leads to this inference. Sometimes they are stationary: in that case, if the swelling is small, there is no necessity for operation, as it is perfectly indolent. I am acquainted with a gentleman who has had through life a rather larger growth of this kind: it causes an unnatural fulness near the extreme angle of the eye, not amounting to deformity, and has never been attended with the slightest uneasiness. The affection, as in the case just described, is a cyst containing fat, which is sometimes of oily consistence, sometimes firmer. I have always found short hairs mixed with it in various proportions. Is this admixture of hairs, which resemble those of the eyebrow in length, to be regarded as an exemplification of the principle so frequently observed in adventitious structures, viz. that they resemble in nature that of the textures in which they grow, or that of parts in their immediate vicinity? It is placed under the orbicularis, and adheres more or less firmly to the bone. You must bear in mind the two latter circumstances in operating make a larger incision than the size of the swelling would seem to require; and pay especial attention to the complete removal of the cyst from the bone.

If a portion of the cyst is left, the wound will not close, and such an occurrence is very annoying to the patient, and considered discreditable to the operator. I saw a young lady, in whom such a tumor as those I have described had been removed from the root of the nose, at the interval between the two eyebrows. She was a handsome person, and had submitted to the operation for the removal of what she deemed a blemish, though it must have been very slight, as the tumor was inconsiderable. She was much worse off after the operation than before: for the wound did not heal, at least it sometims scabbed over, and sometimes discharged. A probe introduced into the opening went down apparently to the bone. Having learnt the nature of the swelling, and that the operator had experienced unexpected difficulty in separating it from the bone, I concluded that a bit of the cyst had been left behind, and proposed an incision to ascertain that point, which was readily consented to. I found, closely adhering to the frontal bone, a small strip of the cyst, conspicuous by its white glistening surface, and having a few short hairs on it: this was easily removed, and a firm cicatrix was soon secured.

I once saw a small growth of similar nature, but with an external aperture large enough to admit an ordinary dressing probe, on the bridge of the nose. It was congenital; and the opening sometimes produced a kind of greasy discharge. A probe passed in about a third of an inch. Various applications had been made to the part ineffectually. I slit it open, and found a smooth shining membrane with small hairs upon it, almost imbedded in the ossa nasi. It was difficult to dissect it out completely; but the removal was accomplished, and the part healed soundly."

II. TREATMENT OF STRUMOUS OPHTHALMIA.

Mr. Lawrence proceeds on the principle of counter-irritation—not a very new one certainly. His mode of using it is thus set forth.

"In these strumous subjects the occurrence of disease in a new part relieves that which was previously suffering. In imitation of this natural process, the tartar-emetic ointment was rubbed on the nape in both patients, so as to produce and maintain a considerable irritation; the sulphate of quinine was administered internally; the bowels were regulated by small doses of rhubarb; animal diet was allowed, when the appetite indicated the necessity for it; and the suffering organs were occasionally fomented with tepid water. Under this treatment both cases have recovered: the children can now open their eyes and bear the light as well as any body, and we find that no unfavourable change has occurred in the affected parts. The patients are at the same time improved in general health. In one of them, the pustular eruption caused by the ointment spread over the body, with considerable but temporary constitutional disturbance."

GUY'S HOSPITAL.

I. DR. ADDISON ON ELECTRICITY IN CERTAIN CONVULSIVE AND SPASMODIC DISEASES.*

Dr. Addison was led to employ electricity in these cases, first, because other means were deplorably unsuccessful; and, secondly because he had, by means of Mr. Golding Bird's assistance, an opportunity of employing it very effectually.

The mode of application is thus detailed by the electrician to the hospital, Mr. Frederick Bird.

"In the following cases, the form of electricity employed, was, with one exception, that elicted by means of the common electrical machine; being made use of either by taking sparks, in the course of the spine; or in the form of shocks, passed through the pelvis.

In the former case, the patient was seated on an insulated stool, and a metallic connexion made between the prime conductor of the machine and the body of the patient: a brass ball, furnished with a wire or chain, in connexion with the earth, was then passed upwards and downwards, in the direction of the spine, at a distance of about an inch from the surface. The machine being at this time excited, the patient became charged, and the electricity continued to pass off, accompanied by sparks, to the brass ball, and thence escaping, through the medium of the wire or chain, to the earth; in this manner a rapid succession of sparks could be maintained; and which, in the present instances, was continued until an eruption followed, which assumed very much the appearance of lichen urticatus; the time necessary for its production varying, in different patients, from five to ten minutes.

For the purpose of passing the shocks, the following method was had recourse to. A large-sized Leyden jar was so placed, that a communication was established between its inside coating and the prime conductor: a 'Lane's electrometer' was then fixed into one end of the conductor, so as to admit of the insulated ball of the former instrument being either in contact with, or at any required distance from, the latter: a chain was placed in contact with the outside coating of the jar, and another was attached to the ball of the electrometer; the ends of both of which were furnished with directors, for convenience of application.

One of the directors was then held upon the symphysis pubis, whilst the other was placed upon the sacrum;† by which means the electric current, in performing its circuit, was made to pass through the pelvis. The ball of the electrometer being then placed at a certain distance (generally ⅜ths of an inch) from the prime conductor, motion was given to the machine, and the charging of the jar commenced; and upon a sufficient quantity of electricity being accumulated to enable its discharge to take place by means of the electrometer, the shock was felt. By adopting the use of an electrometer of this kind, the violence of the shock is made to depend upon the distance of its insulated ball from the conductor of the machine, and not upon the capacity of the jar: hence, it is only necessary to place the ball at a greater or less distance from the conductor, in order to proportion the intensity of the discharge to the nature of the disease or powers of the patient.

In one case, that of Jessie Wick, the magnetic-electrical machine was made use of, patient's strength not being sufficient to admit of the ordinary and more powerful form of electricity. The larger helix having been adjusted to the machine, one of the two conducting wires, furnished with a brass disk, was placed over the cervical portion of the spine; whilst the remaining wire, which was also provided with a disk, was fixed over the lumbar vertebræ: the helix being then slowly revolved, a succession of shocks was obtained, which were thus made to traverse the course of the spinal column."

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* Guy's Hospital Reports, No. V.

† "There is a female in attendance, for the purpose of adjusting that part of the apparatus more immediately connected with the person of the patient."

Seven cases, taken from the hospital-books are detailed.

Case 1. Jessie Wick, aged 17, admitted May 14th, 1837. She had had irregular menstruation, and two months previously, being frightened while menstruating, she fell into the following condition:—She is utterly unable to remain in a state of rest for a moment: her limbs, especially the upper extremities, are violently agitated: the mouth is from time to time ludicrously distorted. The most unvarying motion is, a rolling of her clenched hands quickly round each other, with a thrusting forward of the right in a very systematic manner, it occurring after every third revolution. Deglutition and speech but slightly affected. Occasional pain in the head, back and loins, and under the left mamma: palpitation of the heart, but no abnormal sounds. Her spirits are good, but she is fatigued from the continued action of her muscles.

Purgatives—creosote—hydrocyanic acid—ultimately iron, produced such amendment, that she left the hospital for Ramsgate. But, in October, she returned worse than ever. She had had, in the interim, epileptic fits. When re-admitted, she had a foolish imbecile stare, the face dull, she appeared to be almost regardless of surrounding objects, articulation was lost, and she made no attempt, even by signs, to express her feelings. The twitchings of the upper extremities, mouth, and eyes, were less: the inferior extremities appeared paralytic, at least she made no attempt to move them, nor was she able to stand; her bowels were said to be regular; there had been no return of the catamenia. She was immediately put upon ʒj. doses of carbonate of iron, and used the shower-bath: and a blister was applied to the spine, alone which there seemed to be pain on pressure. The bowels becoming costive, drastic purgatives were again necessary, and croton-oil was given. On the 20th of October the sulphate was substituted for the carbonate of iron; but under this treatment no amendment was produced. After one of her fits, she lay perfectly comatose, scarcely seeming to breathe; and it was not till repeated assafœtida injections had brought away large quantities of fæcal matter, deeply tinged with iron, and stimulating remedies had been used, that her consciousness, and with it articulation, were regained. It would be useless to enumerate the additional symptoms—severer ones of the same description.

As a last resource, Dr. Addison ordered electricity. Her strength not allowing of the severe application, electro-magnetism was commenced. It caused continued spasm of the flexor-muscles of the arm; so that, till the current was discontinued, she could not relax her grasp of the brass handle. This was commenced on the 20th of April; and one the 10th of the following month she was so far improved, that she could use her needle with tolerable precision: her general health improved; and the fits became slighter, though as frequent as before. Sparks were now drawn from the spine every other day; each exhibition continued till a vivid eruption was produced. Her improvement was most marked: at the end of a week she was able to walk across the room without assistance: her countenance gradually became less anxious, and the fits declined in frequency

June 1. Twelve shocks, through the pelvis, every other day, were ordered. The first administration, at the distance of three-eighths of an inch from the conductor, was followed by severe abdominal and pelvic pains, the immediate precursors of the catamenia. The secretion continued for four hours. Shocks to be discontinued.

July 3. Improvement uninterrupted: occasional twitchings are the only indications of chorea. The catamenia have not appeared this month.

A second exhibition of the shocks again occasioned the development of the catamenial function: in six hours it became arrested; after which, she vomited a small quantity of blood.

July 15. She left the hospital entirely free from chorea; though still subject to fits of diminished force and frequency.

Case 2. This was one of chorea. Two doses of calomel and rhubarb, and electricity for three weeks, cured it.

Case 3. Chorea. Cured in less than a month. The patient had had two attacks before, cured by other remedies.

Case 4. *Hysterical Paralysis.* A girl, of 16, had had her catamenia suspended for six months. Ten days before admission, the face became numb on the left side, the sight of the left eye became dim, and there was a slight pain in the globe. On the third day there was perfect amaurosis and ptosis. At the time of admission, there was numbness, coldness, and deficient muscular power over the whole of the left side, including the lining membrane of the mouth, nostril, and conjunctiva: in the latter she perceived a burning sensation, but could not appreciate a touch: the pupil was contracted, and not at all obedient to light: she could not raise the upper eyelid. She complained of pain in the head, and giddiness. Bowels torpid.

C. C. Nuchæ.—Emp. Lyttæ postea.

Mist. Magnes. c̄ Magnes. Sulph. et Tinct. Jalapæ, ʒj. t. d.

This treatment was continued for some time, without the slightest benefit.

April 24. Dr. Addison ordered electricity, in the shape of sparks, down the spinal column. On the same evening she could bend her fingers; and the 27th recovered, to a certain extent, power over the muscles of the arm. The third application, on the 28th, restored vision, and the power of elevating the upper eyelid. In June, electrical sparks were drawn from the left eyelid, and shocks passed through the uterus. She could walk, but the eye was amaurotic, and in the condition in which it was on admission. The catamenia returned on the 11th of June, and she left the hospital.

Case 5. Convulsions, especially on the right side—epilepsy—headache—and many severe symptoms, apparently indicative of organic lesion. Electricity seems to have done *some* good.

Case 6. Severe chorea—cured in less than a month by electricity.

Case 7. Chorea—cured by electricity. It returned, and was cured by sulphate of zinc.

II. DR. ASHWELL ON THE SPECULUM IN DISEASES OF THE UTERUS.

We extract these observations by an experienced obstetrical physician, on the use of an instrument which is now attracting much attention—the speculum. They seem to us to be very fair.

" While the touch enables us to recognise structural changes in the bulk, firmness, and sensibility of these parts, the sight rectifies and perfects an erroneous or incomplete opinion, by shewing the *nature and limits of ulceration*, *excoriation* or *eruption*, the *appearance* of the cervix and vagina in various stages of disease, and the *colour* and *consistency* of the accompanying discharges.

The best and most easily used speculum is made of tin, with an inner, highly-polished surface. There need be no division in the cylinder, and the complicated screw is not required. I have, for hospital use, a series of these conical tubes, of various sizes; and the previous introduction of the finger into the vagina enables me to select the right sized speculum. The length of the tube should be from five to seven inches, and it may or may not have a handle: on the whole, it is, perhaps, more readily used without one. The strong light of the sun is the best for these examinations, but a candle is an excellent substitute.

The rules prescribed for the introduction of obstetric instruments into the vagina will serve here. The labia being widely separated, the speculum is to be carefully and slowly passed, backwards and downwards, towards the point of the coccyx. The principal obstacle is at the entrance of the vagina; for when the resistance of its sphincter is once overcame, the speculum will easily traverse the rest of the canal. Care must be taken that the transverse portion of mucous membrane, placed posteriorly, called the fourchette, is not stretched and carried forward by the instrument, as great pain and difficulty in the introduction will be the result.

The position of the neck is occasionally changed, being placed more forward or posteriorly than natural. To obviate this difficulty, and to bring the cervix within the end of the tube, the speculum must be elevated or depressed. Sometimes, from spasmodic contraction, induced by the passing of the cylinder, a fold of the mucous membrane of the vagina is forced into the aperture of the speculum, and may be mistaken for the cervix: the least movement, however, of the instrument will cause the slipping away of the portion thus placed; and the recognition of the neck, which is glandular, smooth, and without rugæ, and paler than the vagina, is not difficult.

The whole circumference of a very large cervix cannot be examined at once: the position of the speculum requires attention, and if the parts are not morbidly sensitive, the instrument is easily and safely turned in the vagina: this caution is important; as very lately I overlooked a rather large ulcer on the inferior and posterior surface of the neck, from a neglect of it."

"Valuable as is the speculum, its use has been indiscriminately and unnecessarily urged. In slight cases of uterine irritation and leucorrhœa, its employment is predjudicial; while, in leucorrhœal discharges of long standing, and in menorrhagia of months' and years' continuance, its introduction cannot be too strongly recommended: for it must never be forgotten, that these maladies rarely exist long, without more or less of organic change. If there be a suspicion of structural mischief about the lower part of the uterus, there ought to be no delay, not only in touching, but in seeing the seat of the suspected disease.

There are circumstances which entirely forbid the employment of the speculum. In very young and very old persons, its introduction is difficult, and sometimes altogether impossible, without laceration. The hymen in the young, and the great shrinking and contraction of the vagina in aged women, present obstacles so serious that the use of the speculum ought to be given up, unless the necessity be extremely urgent. I have several times found membranous bands stretching across the vagina, and contractions of its caliber from cicatrices, which would have entirely impeded the passage of the instrument. There was lately an out-patient of mine at Guy's, whose vagina was so funnel-shaped at its upper part, as to preclude my touching the os or cervix, except by a probe, introduced through the minute aperature at the apex of the funnel by which the catamenia escaped from the uterus, Steatomatous tumors occupying the walls of the vagina, ovarian growths in the recto-vaginal septum, polypi, deep ulcerations of the vagina or neck of the uterus, large cauliflower excrescences, or bleeding fungi, all contra-indicate the use of the speculum. When the neck is inflamed, or much congested, or where the vagina is excessively sensitive, the introduction of the speculum should be deferred, till these various morbid conditions are ameliorated."

The speculum has been over-rated, but it is valuable means of diagnosis It is a pity that the gross indecency of it, makes it a derniere instead of a premiere resource.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

M. MAGENDIE ON CERTAIN AUSCULTATORY PHENOMENA.

THE following is an extract from one of M. Magendie's Lectures, recently delivered at the College of France, on the Physical—in contradistinction to the Vital—phenomena of life.

"Another consequence of the existence of elasticity in living bodies is the production of sound.

You know that sound cannot be produced in a body totally inelastic. Thus every species of sound developed in the animal economy is a physical phenomenon, independent of any vital laws, and explicable only on the general laws of physics.

If you are ignorant of this branch of natural philosophy, how will you ever give an account of those numerous varieties or shades of noise, which we hear on exploring certain organs? If you read the magnificent work of Laennec on Auscultation, you will be surprised to find in it so little reference to physical indications and physical law, although every thing connected with this most important discovery is strictly and truly physical, modified by the conformation and structure of our tissues.

You may, it is true, be able to learn the various *râles*, and to connect them with the lesions whose existence they denote: but, without the assistance of physical laws, you will never have scientific notions on the phenomena of auscultation.

And is there not, in the organization of man, an admirable apparatus destined specially for the production of sound? The organ of voice is *the* instrument of music *par excellence*—an instrument far more perfect than the most finished instrument of art. You hear a man speak, and yet you do not seek to explain by what mechanism the voice is formed! These sounds so varied which issue from the lips, the action of whistling for example, the gurgling noise heard when we gargle the throat, whispering—all these, and a thousand other shades of sound which the human organs are able to produce, are essentially phenomena belonging to the domain of physics.

A surgeon recognises the existence of a fracture by the slight crackling communicated to the fingers by the broken extremities of the bone rubbing against each other. Now what is it that happens on this occasion? The elastic surface of the fragments, rubbed the one against the other, produces certain vibrations; whence results the peculiar sound known by the name of *crepitation*.

Again; the heart in health and in disease gives rise to normal and abnormal sounds, which are explicable only on the ordinary laws of acoustics. You all know the double tictac of this organ: now you cannot conceive the production of this sound without a double shock. But it will be asked, against what does this double shock take place? Oh! it is on this subject that hypotheses and conjectures have been accumulated in such mighty numbers!; and the reason of all this diversity of opinion is to be traced to the single circumstance, that physiologists have rather consulted their own fancies, than studied the laws of natural philosophy.

Hence it is that one set of experimenters has endeavoured to account for the double sound of the heart by the action of the blood against the parieties of the organ, while another set attributes it to the play of the valves, which they compare to the moveable suckers of a pump. *Eh bien*! You will see, at a future part of this course, that, by adapting a sucker to the interior of an elastic tube, and then causing a stream of fluid to be propelled through it, you will in vain try to detect the slightest sound.

Plunge your hand into water, and shake it about with some force, do you hear any noise? Certainly not. And indeed how can it be otherwise? Since the science of physic teaches us, that an essential condition of the shock is the sudden contact of two bodies previously apart. Now if this contact already exists, you cannot expect to have any sound of a shock.

On the contrary, if the heart strikes against the parietes of the chest, (as we shall afterwards demonstrate to be the case by experiment,) this being sonorous, you must necessarily have a sound; for here you have, united, the very conditions which are most favorable to its production.

If now you study those *bruit*, known by the names of the *sawing*, *filing*, and *blowing* sounds, which are occassionally perceptible in the heart and large blood-vessels, their prolonged character or duration will surely not permit you to attribute them to a simple shock, like the tictac of which we have just spoken; and you will find that in truth they are developed under the influence of friction. Natural philosophy instructs us that, when a fluid traverses an elastic tube with rapidity, a sound, such as we allude to, is always audible.

However, we cannot expect to explain the various sounds, which arise from friction, as satisfactorily as those produced by the shock of one solid body against another. We may calculate the force of the latter by knowing the size and density of the two objects, and the strength and quickness with which they meet. Not so with the former.

Experience instructs us what takes place when two ivory balls are struck together: but it informs us very unsatisfactorily of the sounds produced by fluids traversing elastic pipes.

You cannot therefore be surprised that physiologists have not hitherto applied the laws of physical science to these phenomena of the circulatory apparatus; seeing that these laws, even in the case of inanimate bodies, are still unknown, or only very partially so, to philosophers.

The transmissibility, as well as the production of sound, is a phenomenon purely physical, and one which deserves the especial study of the physician. In fact, the transmission of sound through elastic bodies furnishes, in certain cases, the most valuable and positive indications in practice to the medical man. The surgeon, when he wishes to ascertain whether a bone at the bottom of a wound be denuded, or if a calculus exists in the urinary bladder, makes use of a solid instrument for the purposes of exploration; and the simple crepitus or sub-crackling communicated to the fingers by the contact of the sound and the hard body affords the sought-for indication. Vibration is a phenomenon purely physical; for, if instead of a metallic probe or sound, we employ one made of Indian-rubber, the sound produced, as we are well aware, is very different."—*Lecons sur les Phenomenes Physiques de la Vie.*

M. MAGENDIE'S OBJECTIONS TO THE PRESENT DOCTRINES ON THE SUBJECT OF CONTAGION.

After examining with great minuteness the various phenomena of imbibition in the living body, this ingenious physiologist directs the attention of his hearers to the absorption of aerial poisons under certain circumstances, or, in other words, to the propagation of morbific miasms from one person to another. His words are as follows:—

"There is a certain number of diseases which are transmissible by the way of contagion. The examination of this subject is very naturally comprised in the study of the phenomena and laws of imbibition.

In truth, we cannot imagine to ourselves any idea of the contagion of a disease, unless we admit the existence of some morbific material, which, proceeding from the body of the sick, is capable of causing a similar train of events in the system of a person in health. Now no substance, whether solid, fluid, or gaseous, can penetrate into the body, except in the way of absorption, however this function is performed. And as contagious diseases are transmitted, not so much by influences at a distance as by direct contact either of the sick or of objects which have been near them, we must apply to physical laws for an explanation of the mode, in which the transmission takes place.

Such is the object which is to occupy our attention at the present moment.

But, before engaging in this disquisition, it may be proper to specify what are the diseases which may be strictly deemed to be contagious; for there are several which have been reported as such, but which certainly are not so.

Look at our Sanitary Code. Is it not a most strange thing to find that these questions, which surely appertain to the department of medical science, have been discussed and settled by men who knew nothing of its principles, and that our medical legislation should rest, as it does, on the most erroneous premises and conjectures? The law recognises five diseases to be contagious, and punishes with death (!) any person who dares to infringe the regulations, which have been adopted to prevent the introduction of any of them into our country. *Eh bien!* out of these *five* diseases, *four* ought to be *erased* from the list. Thus you see what deplorable consequences result from such a state of the existing law.

The whole condition of our (the French) sanitary code, requires a total revision.

We shall now briefly take a glance at these five—reputed to be contagious—diseases, and discuss the principal arguments which are supposed to prove them to be so.

1. *Typhus.*—After the disastrous retreat from Russia, the French army, decimated by a most malignant fever, reached the frontiers of our own country. The dread, which this disease inspired at that time in the people, caused the Government to adopt every measure which, it was supposed, might prevent the introduction of the pestilence.

Medical commissions traversed every department of the country, and issued numerous ordinances; and sanitary cordons were established in various quarters. Notwithstanding all these precautions, the typhus advanced, cutting off great numbers, wherever it broke out, and it soon reached the metropolis. Then our hospitals were so crowded that they were quite insufficient for the number of the military who were attacked.

Everywhere the disease seemed to defy all the precautionary measures, which were adopted to arrest its progress.

Now what conclusion are we to draw from these well-known facts? It is this very important one; that no persons would now be so foolish as to propose the formation of any *cordon sanitaire.* In the present day we know better, than we did then, the manner in which typhus is propagated. It is not, as was formerly supposed, by the contact of the clothes, or other coverings which may have touched the body of the sick person that the disease is communicated; but through the medium of the air which is drawn into the lungs in breathing—in short the contagiousness arises from one person inhaling the poisoned or infected atmosphere, exhaled by the other.

Let us suppose a number of persons, labouring under typhus, to be shut up in a close confined chamber, where the air is not readily renewed: you may touch any of them with perfect safety; but if you respire the vitiated atmosphere of the place, charged as it is with the animal particles, which issue from the pulmonary exhalation and cutaneous transpiration, you incur a great risk of being infected with the disease. I have repatedly seen medical students, on leaving our hospital, where they had gone but once to follow me through the wards, struck with the pestilence, sicken and die in the course of a few days.

Thus I willingly admit the existence of a morbific and contagious principle in typhus, although I deny the manner in which it is supposed to be propagated. From all the researches which I have made, I am now completely convinced that the propagation of the disease is by the medium of the atmosphere and not by the contact of the skin, provided this be not denuded of its epidermis. Remember that, if there be any excoriations on the hand, when you touch a typhoid patient, you may catch the disease by cutaneous absorption, just as easily as you may by pulmonary inhalation.

As to the question of the transmissibility of infectious effluvia by the medium of the atmosphere, we shall return to examine it at greater length when we come to treat of the permeability of the animal tissues by gaseous fluids. At present I have contented myself with merely announcing my opinion as to the genuine character of the contagiousness of typhus fever.

2. *Cholera.*—I have seen and studied this disease in various countries and under all its manifold forms. I have treated more than a thousand patients labouring under it, and have been led to the opinions which I have formed, only after the most patient investigation of the subject. I may fairly say, that as yet I have never met with a single case, which was decidedly communicable, either by direct contact, or through the medium of the respiration. I am aware that many excellent physicians profess the contrary opinion. But I repeat that I have lived, for from eight to ten months, by night and by day, amids the disease, observing it in all its forms and all its stages; and that the result of all these enquiries has satisfied me that it is never transmitted by *contagion, either mediate or immediate.*

If I were to give my vote as a deputy upon a sanitary code of laws, I should, in all security of conscience, vote that Cholera be expunged from the list of contagious diseases.

3. *Yellow Fever.*—This disease is rarely seen in Europe; but it has been most attentively studied by many accurate observers in many tropical countries, and its history therefore may be said to be well known.

We are assured that yellow fever does not spread by contact from one man to another, but that it is transmitted in the way of infection, in consequence of the impregnation of the atmosphere with putrescent animal particles.

We shall make some experiments on this subject. You will see that a few atoms of certain matters are sufficient to develop in a living body all the principal symptoms, which characterise the yellow fever.

One of the phenomena which we observe most constantly in this disease, especially when it threatens a fatal termination, is the vomiting of black matters. *Eh bien!* If you introduce into the sanguiferous system of a dog a few drops of water, which has rested in contact with some putrid fish or flesh, you will find the animal exhibit a singular restless activity; fever is quickly kindled up, the animal lies down, refuses food, and begins to vomit enormous quantities of those black matters, which constitute so characteristic a symptom of yellow fever.

We know also that, in all the circumstances, under which yellow fever is developed, the air has been vitiated by the disengagement of putrid animal effluvia. Thus it is not uncommon to see it break out when a vessel, loaded with codfish (morue) has stranded in the neighbourhood of a village, and the cargo has been left to putrify on the beach. If the putrid mass be thrown into the sea, the fever soon ceases. Thus, when the cause which engenders and keeps up the yellow fever is perfectly well known, we only require to protect ourselves from it, to lose all dread of this terrible pestilence. It is very different with the Cholera; for as yet we are utterly ignorant of the circumstances which favour its development.

What however, I have said of the Cholera, in reference to its alleged contagiousness, is equally applicable to the Yellow fever: it ought to be erased from the list of contagious diseases.

4. *Lepra.*—To witness the reception which a leprous patient undergoes upon his arrival at an hospital, the care with which he is examined, the anxiety of the physician to have a drawing taken of his appearance, and the numerous visitors who come out of curiosity to look at him, we would certainly never dream of the rigour of the law, which makes it a capital offence to have communicated with a person who is altogether so interesting!

Lepra is one of the five contagious diseases enumerated in our Sanitary Code.

The good sense however of the public

has done justice, where the legislature has been ridiculous and cruel. The folly of the enactment still subsists in the statute book.

As to the lepra which prevails in hot climates, it seems that the unfortunates, who are afflicted with it, are separated from the rest of the community, and that the dread of contagion is still very general. As I have not seen it myself in these climates, I have not been able to form a decided opinion upon the subject, although I am strongly induced to believe that authors have very much exaggerated the arguments, by which they have endeavoured to prove the contagiousness of this disease.

5. *The Plague.*—Of all the diseases, reputed to be transmissible, this one demands the most attentive and conscientious examination from us; for its destructive ravages fill every one with alarm and apprehension. If, as is affirmed, it can be conveyed by linen, cotton and wollen substances, by the skins of animals, and by numerous other articles enumerated in our sanitary regulations, we should be among the foremost to applaud the strictness of our quarantine laws. But examined in a medical and scientific point of view, is it really the case that the contagiousness of the plague has been satisfactorily proved? It is by a tradition which may certainly be traced back for many ages, that this disease has been considered to be transmissible in the way of contagion. Perhaps therefore, the opinion is quite as much attributable to the dread which the disease has universally inspired, as to any absolutely correct data on the subject. Whenever the plague has broken out in any place, a general dread has usually seized all the inhabitants round about; every one hurries to fly off, and if any-one is so rash as to hold any communication with an infected person, the rest of the people have refused to admit him among them. Thus, fear alone has pronounced upon the character of the disease; and fear, as you well know, has not a very accurate judgment.

I have myself visited most of our towns which are provided with lazarettoes, and have had much intercourse with the physicians settled in these places; and I have found several of these gentlemen very sceptical as to the contagiousness of the plague. They are however prudently reserved in giving a decided opinion to this effect, as such conduct would do a serious injury to their practice. If a physician at Marseilles or Toulon were so bold as to question the contagiousness of this malady, he would inevitably expose himself to general reprobation—so universal is the dread of its importation. Let us for a few moments cast a glance over the sanitary precautions adopted in French and other Lazarettoes.

The fundamental idea, on which rests the medical police of those establishments, is that the plague is propagated by contact, and by contact only; and that it is never communicated from one individual to another through the medium of the atmosphere. You are permitted to enter into the chamber of an infected person, provided you are first enveloped in a "assez bizarre" dress. You are covered with a large *domino* of gummed taffetas, and the hands are provided with gloves of the same stuff. With such an apparatus it is believed that you can incur no risk in approaching the beds of the sick. As long as you avoid direct contact with them, or with the clothes which they wear, you are supposed to be quite safe; but if you happen to touch either with your bare finger, oh! then you are thought to be inevitably infected.

Such is the basis of the existing doctrines upon the contagiousness of the plague; and every arrangement in our lazarettoes is founded upon it.

The regulations respecting the purification of suspected goods, such as bales of wool, cotton, &c., are equally ridiculous. How, for example, do you suppose that the quarantine officers proceed when they wish to determine whether a bale of goods contains the germ of the plague? The proof, to which it is subjected, is as follows.

A porter plunges his arm into the midst of the suspected bag, shakes it about in all directions, then withdraws it, and closes the bag. Such is the manœuvre which I have myself repeatedly witnessed. If the man does not exhibit the symptoms of the plague in the course of a fortnight after the experiment, it is inferred that the goods are not infected!

Now I ask of you, can any proceeding be more ridiculous? How! because a man may plunge his arm into a bag of cotton, and yet escape unhurt, are we to infer that it is entirely free from any infectious miasms.

Besides; why should we refuse our belief in the transmissibility of the contagion of the plague through the medium of the atmosphere, when we know for certain that other epidemic diseases, such as variola, rubeola, &c. are often propagated in this manner?

Remember; that we do not at all call in question the fact that woollen or cotton goods, &c. may hold, and retain, infectious particles. All that we object to is the strange doctrine, that these particles should not be disseminated through the atmosphere and in this state exert their ordinary influences.

That the mode of testing the purity or impurity of goods—we mean whether they be infected or not—is, we need scarcely say, ridiculously defective. It is indeed, susprising, that such antiquated practices should subsist in France, so enlightened as our countrymen are upon most other subjects of medical police and jurisprudence.

If the skin covered with its epidermis has such extraordinary powers of absorbing the noxious particles, how comes it that the tender and delicate surface of the mucous lining of the air-tubes should be so impenetrable? We cannot find any rational interpretation of this anomaly; and we are therefore obliged to question the accuracy of the statement. As long as the epidermis remains uninjured, it is scarcely possible to suppose that the absorption of any morbific particles can take place by it. *It is much more probable to imagine absorption by the pulmonary than by the cutaneous surface.*

Were I to enumerate to you all the rules and regulations of the lazaretto at Marseilles, and to mention all the ridiculous usages practised there, you would be utterly astonished that, in the year 1837, and in a country like ours—where all the physical sciences are cultivated with such extraordinary succes, and have shed such a lustre over every department of knowledge—our commerce, our navy, and our travellers, should still be subjected to the most absurd and useless impediments."

M. Magendie continued the discussion of this interesting and most important subject at his following lecture.

"You have heard," said he, "that our government recognises *five* diseases to be essentially contagious, and that *four* of these, viz. typhus, cholera, the yellow fever, and lepra, are in truth not contagious at all. As to the fifth one, the plague, I am unbale to come to a decided opinion on the subject, until I am provided with more numerous and authentic data. The mere supposition that the contagious miasm or principle is communicated by cutaneous imbibition, and not by pulmonary absorption, is a paradox contradicted by all sound physiology. As therefore this opinion does not rest upon the results of any direct experiments, and is still enveloped in a cloud of prejudices, rendered still more dense by fear, it is quite necessary that the subject of contagion be examined with much greater attention than of late it has been.

Can we require a stronger proof of such necessity than the circumstance that M. Clot Bey, the distinguished surgeon of the Pacha of Egypt, denies that even the plague itself is communicable by mere contact. M. Brayer, too, an eminent physician, who has lately returned from a long residence in Constantinople, is of opinion that it is not transmissible from a sick to a healthy person, (ne peut se transmittre de l' homme malade á l' homme sain.)

The very rigour of our quarantine laws must prevent their being duly enforced. Call to mind what happened in Paris during the late epidemic of the cholera. On my return from a journey to the north of England, whither I had gone for the purpose of studying this new pestilence, I passed through Boulogne. Finding myself one evening with several intelligent inhabitants, I was told that a foreign vessel, which had attempted to enter the port before she was visited by the health officers, had been fired upon from the fort. I said to them, 'Gentlemen, if any one has brought cholera amongst you, it must be myself; for I have this very day come from the places where it is raging with great violence, and the clothes which I am wearing at present are the same which I had on when I was visiting the sick. So you see that we are all compromised for the quarantine.' As every one present had a personal interest to keep the affair secret, the news were never told. My friends however, cautioned me to be more discreet when I got to Paris; for otherwise, most assuredly, I should be shut up in a lazaretto!*

With respect to certain diseases, such as small-pox, hydrophobia, syphilis, &c. there cannot be a doubt that they are communicable in the way of contagion. The physical conditions of their transmission are well known; but the special agent, which serves to reproduce the morbid action, has hitherto quite escaped our most subtle enquiries. How, for example, does the purulent matter, secreted from a syphilitic sore, when it is deposited on any surface from which it may be absorbed, give rise to a reiteration of the same phenomena in the infected person?

No chemical discovery has ever been able to point out the difference between common—or, what used to be called, laudable—pus, and the discharge from a venereal ulcer. Various contrivances have been proposed to guard against contamination in impure connexion. There is a powder which is sold in the chemist's shop for this purpose. It consists partly of chalk; and is to be sprinkled on the glans penis before coition. Other people recommend the use of lotions of various kinds, such as of eau de Cologne, a solution of the chlorurets, or of corrosive sublimate, or of liquor potassæ, or of nitrate of silver, &c.

All these substances may probably act in the same way; viz. by modifying, to a certain degree, the state of the epidermoid covering of the glans and prepuce, and thus rendering it less greedy of absorption. But they are far from giving security against infection, and "le moyen le plus sur de prevenir l'infection est encore de s'abstenir."

The Itch is another disease which is readily communicable by contact. In the case however of this disease, it is not a morbid virus that propagates the mischief, but an insect, which may be discovered with the aid of a magnifying glass.

As to the small-pox, measles, scarlatina, &c., the mechanism of their transmission is doubtless through the medium of the atmosphere and the absorbents of the lungs. It is therefore unnecessary to dwell more minutely upon their history."—*Lecons sur les Phenomenes Physique de la Vie.*

M. MAGENDIE ON SOME OF THE PHENOMENA OF ABSORPTION.

"The act of the absorption of any poisonous matter is composed of two distinct periods, imbibition in the first place, and secondly the passing of transportation of the imbibed matter.

In the present day no physiologist doubts that the venous system is the apparatus of absorption. This is a fact simple and at the same time so palpable that we cannot hesitate for a moment to question its truth.*

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* We need scarcely remind our readers that the regulations, adopted in this country to prevent the importation and disseminations of the cholera, were as ridiculous as those of the French government.

While an uninterrupted communication by land existed between an infected place and all the other parts of the island, there were strict prohibitory restrictions imposed on vessels coming from it, if it happened to be on the coast, to other sea-ports!—*Rev.*

* The bold assurance of M. Magendie in many of his assertions is somewhat staggering at first to the cautious enquirer after truth. In course of time, as we become better acquainted with his writings, we are rather amused than angry with him for his style.—*Rev.*

If, instead of experimenting upon the minuter vessels, we study the phenomena of absorption on the larger blood-vessels, we can readily trace all the phases or successive stages of the process; we can see the absorbed substance pass through the parietes of the veins, follow the current of its blood, and then be immediately conveyed towards the great centres of the nervous system.

I will perform such an experiment before your eyes, in order that you may be completely satisfied of the truth of what I now tell you.

I lay bare the jugular vein of a dog, and, having exposed it for some extent, I separate it from the subjacent tissues by placing a small portion of card under it. Thus insulated, the vessel communicates only with the capillary vessels superiorly, and with the central organ of circulation inferiorly. I now place a few drops of tincture of nux vomica—which has been previously warmed, for the purpose of favouring the imbibition—on the coats of the vein. The subjacent card prevents any of the tincture falling upon the surrounding tissues of the part; and all chance of absorption by them is thus prevented.

You observe that the effects of the poison are very slow in being manifested; for already five minutes have passed, and the animal does not exhibit any sign of inconvenience.

This tardiness of action is just what we might have anticipated; since the poisonous matter is in contact with one vein only, and not with numerous capillaries, as in the ordinary application of poisons to the body. But now some of the symptoms of poisoning begin to declare themselves: Eh bien! I can at once stop them by tying the two extremities of the vein. You see this; the animal becomes quite calm in a moment. Here then you have an indisputable proof of the absorption by the veins.

Let us now examine the state of the vein, on which we have just experimented. Its parieties have lost their natural colour, and assumed that of the substance which has penetrated their tissue.

If you touch with the point of your finger the internal surface of the vein, and then apply it to your lips, you will at once recognize the bitter taste of the Nux vomica.

There must, therefore, have been a transmission of the substance from the outside to the inside of the vessel. The poisoning has in this experiment been produced, in the same manner, as when we inject directly any deleterious matter into the sanguiferous system: in the one case the matter has penetrated through the natural porosities of the vessel, while in the other it has been introduced by a puncture in its parietes.

I speak not at present of the lymphatic vessels; for you are aware that they are not permeated, like the veins, by regular currents, and their part in the act of absorption must be next to nothing, (leur rôle dans l'absorption doit etre à peu près nul.)

The following is a curious fact, which I have observed more than once. In the horse, on which I performed the experiment of injecting 30 *litres* of air, we found, on the dissection of the body, the lymphatic system enormously distended with lymph. It would thus seem that the considerable pressure, which the injected air exerted on the blood in the blood-vessels, extended even to the contents of the lymphatics, and thus caused the distention which we have mentioned.

To complete our examination of the important function of absorption, let us, for a few moments, consider some pathological phenomena which are connected with it, and which may justly be deemed *ready-made experiments* on man.

You are aware of the œdematous infiltration which are apt to take place, whenever the circulation is impeded; whether this disease proceeds from a deficient energy in the heart itself, or from some mechanical obstacle to the free return of the venous blood.

Every theory of dropsy, be it general or merely local, rests on the great phenomenon of venous absorption.

We are indebted to M. Bouillaud for several applications, in practice, of the pathology of these physiological facts.

When the inferior extremities only are œdematous, you will usually find that the obstacle to the return of the venous blood exists in the crural vein; in some cases, its cavity is occupied with fibrinous coagula, while in others, it is pressed upon by an adjacent tumor. What happens in such cases? The blood is more or less retarded, or even stagnates altogether from the point, where the obstruction is situated, to the minute capillaries, and, as the arterial exhalation continues as before, the absorption by the veins can no longer take place: hence there results an accumulation of serosity in the meshes of the cellular tissue. It is thus that, in cases of obliteration of the vena portæ, a dropsical effusion into the cavity of the abdomen is induced.

Of late years, some authors have treated of what they term Ascites of the brain. But in truth they have mistaken, under this appellation, the natural secretion of cerebro-spinal fluid for a pathological lesion.

The genuine Œdema of the brain consists in an accumulation of serosity in the very parenchyma, so to speak, of the nervous pulp, or in the cavities of the cerebral ventricles. We may readily imagine that any impediment to the reflux of the blood from the head towards the heart, such as concretions in the sinuses of the dura mater, &c., may give rise to this cerebral dropsy."—*Lecons sur les Phenomenes Physiques de la Vie.*

Experiments on the Spermatic Animalculæ, and on some of the Causes of Sterility in Women.

Importance of the Use of the Microscope in Physiological Enquiries.

M. Donné, whose name we have had occasion of late years to mention with praise as an able and ardent investigator of physiology, is the author of the following observations, communicated to the Royal Academy of Sciences at Paris.

The Spermatic animalcules (*zoospermes*) have been submitted to numerous examinations since the days of Lewenhœck, who was the first to describe them with any degree of accuracy; but hitherto little progress has been made in the discovery of their natural history, or of the part which they perform in fecundation.

M. Donné has studied them in a new point of view. He placed them in contact with the principal fluids of the body, for the purpose of watching the effects of these fluids on their vitality, and general phenomena.

By following out this train of enquiry, he has been led to conjecture that certain changes in the properties of the mucus of the vagina and of the uterus may exercise a deleterious influence on the animalculæ of the male semen, and may thus as effectually prevent impregnation, as if there was a radical defect in the female organs of generation.

In this point of view, we perceive that some light may possibly be thrown on the hitherto most obscure subject of *sterility.*

M. Donné commenced his researches by examining the effects of the blood itself, of milk, of the healthy vaginal and uterine mucus, of the purulent discharge in syphilis and in gonorrhœa, of the saliva, and of the urine on the spermatic animalculæ. He found that they continued to move and live in some of these fluids; while in others they immediately perished.

Thus blood, milk, and pus did not seem to have any visible effect upon them; but the urine and the saliva appeared to kill them at once. The mucus of the vagina and of the uterus was, as might be expected, perfectly innocuous; even the presence in it of new infusoria—which have been discovered by M. Donné in certain vaginal discharges, and to which he has given the name of *trico-monas*—did not appear to affect the spermatic animalculæ.

There are some cases however, in which the vaginal and uterine mucus had a noxious influence. The investigation of this point constitutes the most important theme in M. Donné's memoir. He has found, we are told, that the mucus of the vagina in some women, apparently in perfect health, is such that the spermatic animalculæ perish immediately in it.

The noxious quality belongs sometimes to the vaginal, at other times to the uterine mucus. Having satisfied himself of this fact, he next enquired whether the mucus exhibited any appreciable changes of quality from its normal properties and condition; and he thinks that he has succeeded in discovering certain traces of such changes in the chemical constitution of the secretion.

He says that the mucus of the vagina, from the vulva to the os tincæ, is always *acid*, whereas that of the cervix and body of the uterus is always *alkaline*. (!) Now he supposes that in certain habits and in certain states of the system, there is a disposition to excess of acidity in the one fluid, and to an excess of alkalinity in the other. The probability of these novel ideas rests upon the results of several experiments, which M. Donné has lately performed.

The second part of M. Donné's Memoir is occupied with the investigation of involuntary seminal discharges. This subject has been recently examined by M. Lallemand of Montpelier; but his work is rather of a practical than of a physiological nature.

The chief object of our author's researches has been to discover, if possible, some sure diagnostic signs, by which the presence of seminal matter may be recognized in the urine. He has very satisfactorily shewn that the signs, which the Montpelier professor has pointed out for this purpose, are quite nugatory. The chief of these are the thick and troubled state of the urine, its sickening fetid odour, a cloudy flakiness through it, and a glairy filamentous and greenish-coloured deposit adhering to the bottom of the vessel.

Now all these characters may exist in urine, which has no admixture of seminal fluid; and, on the contrary, spermatic animalculæ have been detected by the microscope in urine, which was quite limpid and transparent, or perhaps only slightly mucous.

It is by the use of the microscope alone that we can hope to discover the presence of the seminal fluid; and this mode of diagnosis is the more satisfactory, as it seems that the characteristic form of its animalculæ is not at all altered by the action of the urine. As their specific gravity is greater than that of the urine, they always fall to the bottom of the vessel; and thus the smallest quantity of semen is readily discovered.

To remove all source of ambiguity, M. Donné has made several experiments to ascertain whether there is ever semen present in the urine, when the person is in perfect health, and has no symptom whatsoever of seminal weakness.

He thinks that he has quite satisfied himself that such is never the case in health, unless indeed there has been an emission shortly before the urine was dicharged; for under these circumstances there are always some animalculæ discoverable, according to his researches. With the exception of such a case, he has never detected them in the urine of a person in health; and he therefore points out the great importance of attending to this symptom —the existence of spermatic animalculæ in the ordinary urine—before the disease has made much progress.

The memoir concludes with the reports of several cases, in which the existence of seminal weakness was suspected, and where M. Donné was requested to examine the urine with the microscope. In some, the presence of the spermatic animalculæ was readily discoverable; while in others the suspicion was proved to be groundless.

In closing these brief remarks, we cannot too urgently impress on the attention of medical men the very high importance of using the microscope more frequently, than they have done hitherto, in examining the products, healthy as well as morbid, of animal life. In conjunction with the valuable assistance of chemistry, this simple instrument promises to reveal many of the mysteries of life and of its wonder-working operations.—*Gazette Medicale de Paris.*

CASE, WHERE THE FŒTUS WAS HEARD TO CRY BEFORE BIRTH.

The occasional occurrence of the fœtus being heard to cry during labour, while it is still within the uterus, is placed beyond doubt by numerous cases recorded by most unexceptionable authorities.

The following may be added to the number. A woman was in labour with her fifth child; the membranes had broke, and a large quantity of the waters had been discharged. Shortly afterwards the fœtus was heard to cry distinctly five or six times, not only by the nurse, but also by the patient herself and her husband.

At this time the forehead of the child was found to be resting on the brim of the pelvis, and its face could be easily felt with the finger. The extraction of the head was affected by means of the forceps; but not without some difficulty. The child did not breathe at first; but was reanimated by the use of the ordinary means.

Remarks. It will be observed that, in the preceding case, not only had the membranes been already ruptured, but also that the face of the child was directed towards the orifice of the uterus at the time when it was heard to cry. The woman was sitting—as is the custom on the Continent—on the *chaise d'accouchement.*

Some writers have asserted that a distinct *vagissement uterin* has been heard, even before the membranes have given way. This opinion however is more than doubtful.

M. Marc, in his able Memoir on Infanticide, in the 2nd edition of the Dict. de Medicine, observes:—"In all the cases of uterine crying, while the head has not yet reached the orifice of the vulva, there has been the discharge of the waters some time previously; and in most of the cases frequent manual attempts have been made by the accoucher to effect the delivery."

The possibility of the child respiring before its delivery is of high importance to the medical jurist; as it shews that the mere circumstance of the lungs containing atmospheric air cannot be received as a sufficient proof that the child has been born alive.—*Bulletin Medicale Belge.*

REMARKS ON INSANITY—IMPORTANT DISTINCTION BETWEEN TWO OF ITS FORMS.

M. Leuret, long a pupil of the famous M. Esquirol, and now one of the physicians of the Bicetre Hospital at Paris, commences a very valuable contribution on insanity to the Gazette Medicale by pointing out the important difference which he wishes to establish between *hallucination* and *lunatic* or *delirious ideas* or *conceptions.*

The former term he proposes to limit to those aberrations of the mind which are always *connected or attended with* some physical or corporeal uneasiness, pain, or any other distressing feeling in a part. For example, it is not unfrequent for a madman to believe that there is a devil lodged in his bowels, or that his head is made of glass, or that his hand is made of ice, and so forth.

These are instances of genuine *hallucination.* The morbid train of ideas springs from, or at least is associated with an uneasy sensation in some part of the body: for example, it is pain in the bowels which causes the madman to believe that a devil has taken up his abode there; it is the feeling of cold numbness that makes him suppose that his head is made of glass, or that his hand is made of ice, and so forth.

Many of the vagaries of the mind during dreams are applicable on the same principle.

A bodily feeling gives rise to a train of ideas, which the mind, uncontrolled either by perception or by judgment, follows out oftentimes in the most curiously discursive manner.

We dream perhaps that we are climbing Mont Blanc, or Ætna, and that we are treading over the eternal snows of the one, or over the heated lava and ashes of the other—the "point de depart" having consisted in the simple occurrence of our feet, while we are asleep, having been either uncovered by the bed-clothes in a frosty night, or perhaps resting on a bottle of hot water. Again, how often does the debauchee's dream turn upon burning deserts, or the sting of serpents causing intolerable thirst, or on the infernal regions themselves—the parched state of his mouth having given rise to this train of ideas!

Such then is the true nature and character of *hallucinations*, according to the language of M. Leuret.

On the other hand, *delirious ideas* or *conceptions* (idées ou conceptions delirantes) are those visionary and insane creations of the mind, which seem to spring up quite independently of any corporeal sensations; they are the pure fabric of the fancy, and have no reference to any one part of the body.

For example, a youth, under the care of M. Leuret, imagined himself to be the son of Napoleon, and heir of all his greatness. He looked down upon all his family as utterly unworthy of his attention, and regarded himself as one of the kings of the earth.

Another man, who had been a baker, and had once served in a regiment of infantry, imagined that he had become one of the Marechals of France; a third, that he was a special messenger from heaven, to reveal the will of the Almighty.

It will be observed that in none of these three cases, can any reference be made to a mere bodily sensation, as the cause of the mental aberration; it was a purely mental delirium, a mere phantasm of the imagination.

Having in this manner pointed out the difference between *hallucinations* and *delirious conceptions*, M. Leuret proceeds to remark that the treatment of these two forms of insanity must be conducted on different principles. The one invariably requires a physical or corporeal, as well as a mental regimen. Whereas for the cure of the other we must trust chiefly to the mental or moral treatment.

Thus in the case of the youth who fancied himself the son of Napoleon, M. Leuret speedily effected a cure, and checked all his vagaries by exacting from him an entire submission to his orders. The hero-born youth at first attempted to resist the command of a mere doctor. A few cold baths however speedily disabused him of all his fancied greatness, and in the course of a month or two he was comparatively sane.

Again in the case of the baker, who had mounted up the ladder of vanity, till he became a Marechal of France, M. Leuret acted in the following manner. He induced his patient to give him a short history of the events of his youth. The man was flattered by the attention of his doctor, and he told him every thing about his father and mother, his associates, the bake-house, &c.

As he approached the period of his life from which his insanity might be said to commence, M. Leuret, under the guise of curiosity, requested him to repeat once more his early history; in order to cause his mind to dwell very forcibly on the field of reality. Hitherto his language and behaviour had been calm and modest. But as he began to describe his rise in the army through the successive ranks of lieutenant, captain, up to those of general and marechal, he became very serious and lofty. M. Leuret, suddenly interrupting him, said very angrily: "think you that I am in a humour to listen to such nonsense? You know that you are only a baker's man; for you have this moment told me so. I had intended at first to have done you a kindness; but after such abominable falsehoods you have lost all my good will. Leave the room immediately."

He was very unwilling to go, and besought M. Leuret to listen to him; but the doctor, purposely designing to convince him of his folly, refused to see him for some days.

When M. Leuret next summoned him to come before him, he refused, and he was therefore forced into the room. He was sulky, and at first would not answer. M. Leuret told him that he was very unwilling to subject him to the cold douche bath and other indignities, which he reserved only for rogues and liars, but that if he persisted in his assertions, he should most certainly be treated like the others. The use of the cold baths was very galling to him ; so M. Leuret once more tried to dissipate his extravagancies by reasoning with him.

This time he succeeded; the man was induced to go into the bake-house of the hospital, and there made himself useful as a clever workman. His state gradually improved, and when he was discharged, his mind had nearly lost all its propensity to aberration.

The preceding may be regarded as a genuine case of a purely mental disturbance, unconnected with any corporeal indisposition ; in short of what Mr. Leuret calls '*une idée delirante*' in opposition to '*une hallucination*'—which, as we have already explained, proceeds from, or, at least is associated with, a a painful or uneasy sensation of some part of the body.

Moral treatment, combined as a matter of course with due attention to the general health of the system, will generally succeed in dissipating the illusion in the former set of cases. It is a great mistake, says M. Leuret, for the attendants of such lunatics to give in to their extravagancies : such concession is only confirming the delusion in their minds.

In the treatment of '*hallucinations*,' it is quite necessary to have recourse to the relief of the existing morbid sensation at the same time that we attempt the removal, if possible, of the mental delusion.

For example; a man suffered from headache, and believed that there were two horns growing from the crown of his head. Nothing could disabuse him of this strange notion. It was therefore proposed to remove the appendages by a surgical operation. A deep incision was made through the scalp and the surgeon made a shew of sawing off the excrescences. When the operation was completed, two ram-horns, which the surgeon had brought in his pocket, were shown to the patient, who readily believed that they had been removed from his own head ; and he ever afterwards was satisfied.

Pinel mentions the case of a woman, who also suffered from severe head-ache, and who imagined that a worm had got into her brain and was gnawing it away. It was proposed to remove it by an operation. The scalp was divided, and a long clot of blood was drawn out from the wound, and shown to the patient as the cause of all her sufferings. Her mind was at once relieved from her former delusion.

In the treatment of these two cases the combination of physical and moral treatment was eminently successful. They were both genuine examples of *hallucination*.—*Gazzette Medicale.*

INCREASE OF INSANITY WITH THE PROGRESS OF CIVILISATION.

M. Brierre de Boismont, at a recent *seance* of the Royal Academy of Paris, communicated the results of certain enquiries which he has of late made respecting the number, actual as well as relative or proportional, of insane persons in the different leading towns of Europe.

From these it appears that the melancholy reflection, that insanity increases in frequency progressively with the advance of civilisation and refinement, is but too true. While London and Paris exhibit an appalling catalogue of hundreds and thousands of lunatics, Madrid and Cairo shew comparatively but very few. The feverish play of passion, the hot thirst of ambition, the sting of disappointment and chagrin, the blighted hopes, the fears and cares and sorrows of man in a highly artificial state of society—all these 'vultures of the mind' keep pecking at its fine network, until it becomes a tangled and confused web. In the number of the Annales d'Hygiene for January 1835, it is justly remarked: "The occupations, amusements, follies, and above all the vices, of the present age are infinitely more favourable to the development of insanity than at any previous period.

We live under the dominion of the *propensities*, and must pay the penalty for so doing : madness is one of these.

More cases owe their origin to moral than to physical causes. If we consult M. Esquirol's table, published in 1835, comprehending 1557 cases, and exclude 337 instances of hereditary taint, it will appear that 579 are attributable to the excess or abuse of the passions, or to the weakness of the uneducated intellect." The following table affords a sad confirmation of the truth of these remarks.

Cities.	Population.	No. of Insane	Proportion.
London	1,400,000	7,000	200
Paris	890,000	4,000	222
Petersburg	377,000	120	3,133
Naples	370,000	479	759
Cairo	330,000	14	30,714
Madrid	204,000	60	3,350
Rome	154,000	320	481
Milan	151,000	618	242
Turin	114,000	331	344
Florence	80,000	236	338
Dresden	70,000	150	466

True it may be that many of these numbers are far from being exact, or from exhibiting a correct view of the actual amount of insanity in some of the cities mentioned.

In such as Cairo, Madrid, and Petersburg, there may possibly be a great number of cases, of which the inquirer can obtain no information, in consequence of the want of proper asylums, and accurate registers.

The statistics of insanity in many countries are so imperfect, that we can place but little reliance as to the exactitude of their results. Still however the general conclusion cannot be gainsayed that the relative number of the insane to the actual number of the inhabitants, of the large towns in the above table, is very nearly in exact proportion to their civilization and refinement.

The following table given by M. de Boismont confirms but too truly this assertion.

	Population.	No. of Insane.	Proportion.
*State of New York	1,617,500	2,240	721
England	12,700,000	16,222	783
Scotland	2,093,500	3,652	563
Norway	1,051,300	1,909	551
France	32,000,000	32,000	1,000
Belgium	3,816,000	3,763	1,014
Holland	2,302,000	2,300	1,046
Italy	16,789,000	1,441	4,879
Spain	4,085,000	569	7,181

ON THE DURATION OF LIFE IN FRANCE SINCE THE COMMENCEMENT OF THE PRESENT CENTURY, BY M. BIENAYME, INSPECTOR OF FINANCES, &c.

(*Read before the Institute.*)

In noticing this elaborate paper of M. Bienaymé, we cannot enter upon the minute discussions, with which it is chiefly occupied. All that we propose to do is, to present to our readers some of the most instructive tables, or registers, which are contained in it.

The following one exhibits, in round numbers, the relative numbers of male and female births in France from the year 1817 to 1832 inclusive:—

Years.	*Boys.*	*Girls.*
1817	— 488,000	— 455,000
18	— 471,000	— 442,000
19	— 509,000	— 478,000
20	— 494,000	— 464,000

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* The following passage is taken from a recent work, entitled, 'What Asylums were, are, and ought to be,' by W. Browne, surgeon of the Montrose Asylum.—"The number of lunatics is said to be much greater in America than in any European Country. Can this be the effect, it has been asked, of the acquisition of independence, or of the operation of the constitution under which the people live? I am disposed to believe that a concurrence of causes may have produced this result. First, the abuse of ardent spirits. . . . Secondly, money is gained easily and rapidly, and the abject and ignorant become suddenly rich, without becoming wiser or better. . . . Thirdly without wishing to repeat the heartless sneer that the Adam and Eve, of the United States were born in Newgate, the fact cannot be overlooked that the sources of the tide of population, which has been flowing uninterruptedly towards America, have been impure and poisoned. . . . . Fourthly, the intenseness of political feeling, and the agitating nature of the civil contests must decidedly contribute to the development of the disease." *Rev.*

1821 — 497,000 — 465,000
22 — 501,000 — 471,000
23 — 496,000 — 467,000
24 — 507,000 — 476,000
25 — 503,000 — 470,000
26 — 511,000 — 481,000
27 — 505,000 — 474,000
28 — 501,000 — 474,000
29 — 496,000 — 468,000
30 — 496,000 — 470,000
31 — 509,000 — 477,000
22 — 483,000 — 454,000

The author afterwards gives another table shewing the entire number of births and deaths in France from 1803 to 1811.

The total amount is 8,265,950 births.
and 7,279,387 deaths.
The average yearly } 918,440 births.
may be stated at } 808,861 deaths.

If we now divide the annual number of births, according to the average proportion deducible from the preceding table, into male and female births, we find that of the 918,440 children born each year, 475,880 are boys.
and 442,550 are girls.

From an extended series of calculations, M. Bienaymé has ascertained that, in the present day, of every 100 male births, rather more than 60 survive to the age of 20—the age when they are liable to serve as recruits in the army. The number of female children who live to this age *must be still greater* (doit etre plus grande encore); for it is a fact, established beyond all doubt, that the female sex possesses at almost every age, even previously to child-bearing, the privilege of dying in a less proportion than the male sex.*

(The translation of this sentence is designedly quite literal.) *Annales d'Hygiene Publique, Aout* 1837.

Report on the Evils of the Factory System in France.

(Read before the Institute.)

MM. Villermé, and Chateauneuf were recently appointed by the Academy of Moral and Political Sciences to examine and ascertain, in the different departments of the kingdom, "the moral and the physical state of the working classes."

These two gentlemen took different directions of the country for inspection. While the latter travelled through the central districts and along the sea-coast, M. Villermè (who is the reporter on the present occasion) visited those departments in which there is the greatest number of cotton, woollen, and silk manufactories.

He states, that there is at all times a large number of the manufacturing population in France in real misery. With scarcely sufficient clothing during the day, and ill-sheltered at night, their food is but too often scanty and of the coarsest description. The hours of labour are in many cases far too long. Each day both males and females are often occupied from fifteen to fifteen and a half hours; and of these fully thirteen are devoted to actual hard work. The condition of the children in these manufactories is often still more deplorable than that of the adults; their hours of work being quite as long, while their strength is less able to bear it.

In the province of Alsace, many of these youthful unfortunates are children of Swiss or German families, which have been reduced by distress. To add to their other calamities, the price of lodgings in the manufacturing towns is often so high, that they are obliged to live at some distance.

"No where," says M. Villermé, "is the wretchedness more conspicuous than at Malhouse, a town which, although it has greatly increased in size of late years, cannot contain all its work-people. Every morning we see hundreds of miserable, half-fed, ragged children, arriving from all the environs and hurrying, perhaps, through the rain and mud with their morsel of bread, which is to suffice for food till their return home."

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* This curious fact—the less relative mortality among females than among males—ought to be known to medical men, who, we regret to state, do not take sufficient interest in the study of statistics.

The children, employed in the cotton manufactories in the department of the Haut-Rhin, are somewhat better cared for; but even there, the contrast of the factory children with those in the adjoining rural districts, is very grievous. Instead of the blooming health and gay spirits of the latter, they are almost all pale, weak and dispirited looking, ill-clad, ill-fed, and altogether wretched. How can we be surprised at this, when we call to mind the hours of labour to which they are doomed? They are actually, in many cases, longer and more severe than what the galley slaves have to endure. Twelve hours—and of these two at least are allowed for food—are the most that are ever exacted from these; whereas the children in very many manufactories are, as already mentioned, condemned to fourteen or fifteen hours, out of the twenty-four. The age of these unhappy children is usually from seven to thirteen years.

M. Villermé mentions that the children, employed in the woollen manufactories, are on the whole better off, than those in the cotton ones. The workshops are more healthy, the wages are somewhat higher, and the children employed in the former are usually two or three years older, than those engaged in the latter.

It is true that no hard manual work is imposed on the children in either case—their duty consisting chiefly in 'une simple surveillance.' But then to require them to stand in one confined spot hour after hour, without change of place or even of attitude, cannot but be pernicious to their health in the extreme. And after their long day's work is over, to be obliged to walk two or three miles home to a scanty supper and a damp unholesome bed—what a hard and cruel fate! Let us not hear of the miseries of West India slavery: the lives of our own fellow-countrymen is worse a hundred fold.

M. Villermé calls upon his countrymen to follow the generous example, which has been set by the government of Great Britain, in restricting the number of hours of work to which factory children should be subjected. He alludes to one or two most laudable efforts which have been made by the manufacturers themselves to introduce a better state of things; and addresses from several of the commercial towns throughout the kingdom have been addressed of late years to the minister of commerce on this subject.

With such facts, as we have stated above, before our eyes—of children from seven to thirteen years of age being kept on their legs for thirteen hours out of the four and twenty, while all the time they are ill-fed, ill-clothed, and miserably housed—surely it is high time that some change be soon effected. It may be true that in all manufactures there are times of distress, and that often the masters cannot afford to give high wages or allow short hours to those in their employ. It may be also quite true that, in the present day of restless competition, not only between the merchants of one country but between different countries, all striving for the same end, the only chance of success depends upon low prices, and these are only to be had by low wages on the part of the workmen, and small profits on the part of the masters.

Still these considerations, although worthy of attention, ought not to deter our legislature from interfering on so national an object, as that of the health of hundreds of its young inhabitants. Humanity, nay the dictates of ordinary policy, should prompt to the adoption of some means without delay. It cannot be a prudent, it cannot be a safe, state of things for a country to have a large portion of it population feeble, sickly, and decayed.—*Annales d'Hygiene Publique.*

This short statement will be read with interest. It shews that the state of the manufacturing districts in France is quite as bad as in our own country, and that the factory system is urged to as extreme a length. Children, from seven to thirteen years of age, kept at work for twelve and fourteen hours of the day, forced to walk some miles before and after work, ill-fed and often in rags—such a picture of misery! Oh! what will not cupidity make man do to his fellow-creatures. It is truly melancholy to think of all these things; and withal to hear, eternally dunned into our ears, eulogies of the amazing progress of civilization, refinement, charity and so forth, in the present day. We have shewn in another article in this Periscope, that insanity has increased with increasing knowledge and prosperity—alas! vice and misery too seem to follow in their train.

SUGGESTIONS FOR THE IMPROVEMENT OF THE MORALS AND MANNERS OF THE INHABITANTS OF LARGE TOWNS IN GERMANY!!

Our readers will be probably surprised at reading the above notice; and they may well puzzle themselves with trying to discover what business a medical journal has to do with the doctrines of ethical science. Professor Wildberg, however, tells them that morality is but one department of medical jurisprudence(!)—the scope and object of which are not to be confined to the examination of those questions alone which relate to the health of communities, or to the detection of crimes, but should embrace a much wider field, and should afford a code of regulations for the general conduct and demeanour of the people!

We are tempted by another consideration to extract a few of the Professor's instructions—in order that our readers may judge for themselves of what sort of *stuff* a large portion of the periodical medical literature on the Continent is composed. The paper from which we borrow these notes is headed, "Remarks on some objects of medical policy, which, notwithstanding their importance for the health and lives of the inhabitants, are utterly neglected in many places."

1. In many districts, we are informed, there is a pernicious custom of crowds assembling before the house of the bride and bridegroom on the eve of the nuptials, and causing great noise and disturbance in the street, by screaming, knocking at the doors, and by all sorts of boisterous revelry. This evil ought certainly to be put a stop to(!) It might be very easily suppressed; and we are therefore surprised that the public authorities have so long permitted its continuance.(!!)

2. In most towns we find that adults as well as children are in the habit of sitting down and obeying the calls of Nature (hinsetzen und ihre nothdurft verrichten) in the streets and open places; and also that all sorts of rubbish, dead cats and dogs, &c. are often thrown down on the public highways. (We humbly suggest to our German brethren the example of their Parisian neighbours, who have the merit of having introduced, into every part of their matchless metropolis, the great public convenience of "cabinets d'aisance inodores(!)

3. The practice too of children being permitted to be running about the streets, and playing all sorts of games is highly reprehensible! These little urchins may unknowingly be the cause of mischief to themselves and also to passengers. This evil also might be very easily got rid of by a simple prohibition. (Auch diesem uebel wurde durch ein einfaches verbot leicht zu steuern seyn.)

4. The bathing of the youth in rivers and in the sea ought to be subjected to certain regulations, in order that the distressing accidents, which are occurring so frequently, may be prevented. With respect too to skating and to sliding on the ice, the public authorities ought to issue certain orders, cautioning the citizens against venturing on the ice, except it be sufficiently strong and able to bear them.

5. All idle and unoccupied men ought to be viewed and treated as useless and hurtful members (nutzlose und schadliche glieder) of society. A much sharper eye ought to be kept on this sort of people, than is usually done. They are not only *drones*, but positive *pests* of large towns.

6. The same remark is applicable to all the unmarried women, who are not engaged in some regular honest employment, but live by prostitution, (mit ihrem leibe gewerbe treiben.) The ma-

gistracy might do much to improve these women; and if all such attempts fail, they ought then certainly to be banished from the city.(!)

7. In all large towns there are numerous public houses, where beer, brandy, and other drinks are prepared and sold. Now all such places ought to be regularly visited and inspected by competent persons, whose duty it should be to examine all liquors exposed for sale, as well as to find out of what materials they are composed, and how they are manufactured. Similar regulations should extend to all butchers and dealers in meat. All the cattle should be examined, before they are slaughtered. We are favoured by our learned author with the following code of regulations. Every beast should be as thoroughly drained of its blood as possible; the *blowing up* of meat should be prohibited under a severe penalty; the hide, or, as it is called, the sward of pigs should be carefully cleared of all the bristles(!); and lastly, no meat should be cut up, or salted, until it has become thorougly cool.

[Our readers have probably had enough of this puerile niaiserie; yet of such materials is a large portion of German journalism composed. Those who may wish to consult the original will find it in—*Wildburg Jahrbuch der gesammten Staatsarzneikunde.*]

RHEUMATISM, NATURE OR PROXIMATE CAUSE OF—SHEWN TO BE A DISEASE OF THE FIBROUS, AND NOT OF THE MUSCULAR TISSUE—EMPLOYMENT OF OPIUM IN ITS TREATMENT, &c.

The question, which we propose at present to endeavour to solve, is, what is the genuine seat and nature of Rheumatism. Is it really an inflammation of the *muscular* substance? or is it an inflammation of the *fibrous* tissue of the limbs, and joints, viz. the aponeuroses, fasciæ, articular, capsular ligaments, &c.?

The former of these two doctrines was almost universally adopted as true—indeed, without almost any dispute—by our forefathers. Rheumatism in nosological arrangements was generally designated and described as a Phlegmasia of muscle, just as Arachnitis has been used to denote an inflammation of the arachnoid membrane, or Peritonitis of the peritoneum.

The fallacy of this doctrine has of late years been very clearly established; and it is now very generally admitted by the best pathologists, *that the fibrous tissues are the genuine seat of rheumatic inflammation*—at least in the acute form of the disease.

We cannot indeed appeal, with as much confidence as we can in reference to other inflammatory disorders, to the results of morbid anatomy in proof of this position; as every one knows that uncomplicated Rheumatism very rarely proves fatal, and that, therefore, the physician can seldom examine the morbid changes which the disease may occasion.* It is however, to be noticed, that in the few cases, which have proved fatal, and in which there was a careful examination of the affected parts by dissection, the muscular tissue has been found to be, almost, if not altogether, quite exempt from any change or lesion; and that the most obvious and well-marked signs of morbid action—and even these, have in most instances been far from being satisfactory and "bien prononcés"—have consisted in thickening of the aponeurotic and capsular membranes, and in some slight changes, either as to quantity or quality, of the synovial fluid.

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* We cannot however but think that hospital physicians in particular have neglected many opportunities, which they have, of carefully inspecting the appearances of the joints and limbs in patients, who may have suffered at some period of their lives from acute or from chronic Rheumatism. We know for example, that a large majority of the cases of Pericarditis occur in rheumatic patients; and yet in the pathological history of that disease, there is seldom or never any reference to the other morbid appearances, save those which are found in the chest.

M. Brachet informs us that Lyons and its immediate neighbourhood—where he practices—is noted for the great prevalence of rheumatic complaints.

The climate is very moist, and the soil is clayey and damp.

Being the physician to one of the large prisons there, M.B. has very ample opportunities of treating a vast number of cases; and he tells us that, after long examination of the subject, he is now convinced that Rheumatism is not a *muscular* but a *fibrous* inflammation.

Reasoning had, in the first instance, led him to this view of the subject. He could not satisfactorily explain to his mind how rheumatism could be so metastatic or transitory from one part to another, if the muscles—organs which are distinct and independent of each other—were the seat of the disease.

The fibrous tissue, on the other hand, being continuous, and, as it were, expanded over the whole body, we are at once prepared to expect that a morbid action in one part may be quickly transferred to another. This is a feature, which is strikingly characteristic of every form of Rheumatism; and certainly we cannot find any rational interpretation of it, if we regard it as a disease of muscular substance.

The mere circumstance of the pain being often seated in the muscular parts of a limb cannot have much weight on the mind of any pathologist, when he calls to mind that, wherever there is a muscle, there is either an aponeurosis, or fascia, or tendon, or periosteum—all of which *tissues* are strictly *fibrous*.

M. Brachet admits that, in a very few cases of rheumatism, the disease has terminated in formation of an abscess in the muscles. (When this occurrence does happen, it is usually in the muscles of the thigh.) He has seen two or three examples of this nature in his own practice; but, in every one of them, the purulent collection had taken place either in the subcutaneous, or in the intermuscular, cellular texture; and never in the muscular tissue itself. In one or two instances he has found pus around the periosteum.

We have not alluded to the striking sympathy of morbid action between the tissues usually affected with Rheumatism and certain serous membranes, more especially the pericardium, as affording another argument in favour of the *fibrous pathology* of the disease. That there is a certain affinity in structure, functions, and morbid liabilities, between the serous and fibrous tissues was ably illustrated by Bichat, in his great work on the membranes, and cannot be disputed by any one.

The French, indeed, with their accustomed vivacity of invention, have often pushed the *doctrine of analogies* too far; and we must confess that we are not yet disposed to regard the pericardium as altogether identical with a capsular ligament of a joint.

Is their structure quite the same? certainly not. Is their secretion quite the same? No. Are their pathological or morbid lesions quite the same? We are forced to answer again, No. A capsular ligament is rarely found to be invested with genuine coagulable lymph such as we so often find on the surface of the pericardium after death. Whether the peculiar oily nature of the synovia, as has been suspected by some, prevents in some degree the persistance of this effusion, we cannot tell; although we must confess that we are never much inclined to explain vital phenomena, either in health or in disease, on merely mechanical principles.

But waving these considerations, no one can dispute the striking connexion between Rheumatism and pericarditic inflammation; and we think that M. Brachet is quite justified in alluding to this connexion, as one argument which suggests the real nature and character of the former malady.

"It is however of importance to remember," says M. Brachet, "that although rheumatism is in our opinion strictly and truly an inflammation of fibrous structure, it is by no means the only *form of* inflammation to which that structure is subject. Rheumatic inflammation is unquestionably different in many respects from ordinary, or, what is sometimes called, simple inflammation of fibrous tissue."

This admission on the part of M. Brachet is highly creditable to his practical judgment, and shews us that the generalising and exclusive doctrine of the Broussaian school—which this Journal has so uniformly opposed—do not now infect the French writers, as it did some few years ago.

In reference to rheumatic inflammation being of a peculiar or specific character, we surely do not require any other argument than that of the diseased action never terminating in one of the most frequent consequences of simple phlogosis, we mean suppuration.

M. Brachet does not pursue this subject any further, as the main scope of his paper is to point out those forms or varieties of Rheumatism, in which the use of opium, internally and externally, is of most service.

When the pain is limited to one or two parts of no great extent, frictions with a strong opiate liniment,* or the application of an opiate plaster will often suffice to dissipate the evil.

But when the pain is widely diffused, and affects perhaps both upper and lower extremities, the neck, &c., and when there is active synochal fever present, the first and most important step in such a case is to order a large general bleeding. As long as the fever continues, at least with any severity, we should abstain from the internal use of opium, as there may be considerable danger of inducing a metastasis of the diseased action from the extremities to the brain. It is when the pulse becomes soft and less full, and when the skin is disposed to be moist, that the administration of opium will be found to be of most decided efficacy. M. Brachet seems to prefer the morphia to any other preparation for internal use.

As an example of the dangerous effects of opium injudiciously administered in acute rheumatism, M. Brachet relates the following fatal case.

A man was seized, in the Spring of 1821, with a violent attack of acute rheumatism. All his limbs were affected with excruciating pain, which was greatly aggravated on the slightest motion. The pulse was rapid and full, and all the other symptoms of active synocha were present. This state had continued for three days, when M. Brachet visited him. M. B. urged the necessity of immediate venæsection; but, the patient refusing, he prescribed some mild diluents.

On the following day he again urged the importance of general bleeding, as the pains were as severe as ever, and the synochal symptoms were violent. Still the patient would not consent; and M. Brachet contented himself with using merely palliative means.*

Next day another physician was called in: he prescribed the free use of opium. Coma supervened, and the patient died in twenty-four hours afterwards.

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* The formula for the liniment which we usually order is the following.

℞. Liniment. saponis comp.
Liniment. camphor. comp.
Tincturæ opii, āā ℥ss. Misce.

* We cannot indeed approve of M. Brachet's practice on the present occasion.

In the treatment of severe inflammatory disease, should it so happen that a patient or his friends decidedly object to the use of the lancet, it is not the part of a wise physician to be inactive in consequence.

There are other remedies almost as potent as even bleeding itself, in reducing high vascular excitement. Of these the preparations of antimony and of mercury are by far the most efficacious.

By repeated doses of emetic tartar, either alone or in combination with small doses of opium to prevent excessive vomiting, or with colchicum, we may very generally succeed in abating the most vigorous synocha; and by using some mecurial preparation freely, we act on the state of the circulating mass of blood, so as to *attenuate* the peculiarly fibrinous character, which is almost always present in acute rheumatism. Our own opinion decidedly is that mercury is, perhaps of all remedies, the most powerfully *anti-rheumatic.—Rev.*

The caution is well expressed in the following paragraph from Stoll's writings: "Cave ab opio, maximé vespere propinquando; stante inflammatorio stadio non convenit ob aliena et anomala nervorum mala; at, fracto subinde, cauté quidem dari potest."

In some cases of very obstinate rheumatic pain, which has resisted the usual modes of applying opium, viz. liniments and plasters, M. Brachet has frequently succeeded by having recourse to the Endermic method. He usually employs one grain of acetate of morphia, sprinkled on the denuded surface of the affected part.

M. Brachet very justly remarks in reference to chronic Rheumatism that most erroneous ideas have hitherto very generally, and still do prevail on its real or proximate character; and consequently that the practice, which is pursued for its relief, is most vague and empiric. It has been far too commonly taken for granted that chronic Rheumatism is only a less acute form of the disease which we know by the name of acute Rheumatism; and that the morbid action in the two disorders is of the same essential nature, differing only in its severity and degree.

Now as acute rheumatism is always most obviously a phlegmasia, it has been concluded that chronic rheumatism must be so too; with this difference only, that the inflammatory action is of a much less severe and active character, and not sufficient to produce any febrile excitement of the system. The error—and be it remembered that it is one of great practical consequence—of this doctrine consists in its being only *partially* correct. That many cases of chronic rheumatism consist in a subacute degree of inflammation of the affected parts cannot be disputed by any one. Its symptoms and causes, as well as the nature of the means which are most successful in relieving it, place the truth of this beyond all doubt.

But it is equally true that numerous other examples of chronic rheumatism exhibit very different characters—characters which are utterly incompatible with the idea that it is a disease of inflammatory nature. For example, how are we to reconcile with this view of the question the occurrence of *so-called* rheumatic pains in many invalids, whenever their stomach or bowels are slightly deranged? or how are we to explain the very evanescent and temporary duration—perhaps only for an hour or two at a time—of these pains? And lastly, how is it that an inflammatory action should be relieved not only by internal stimulants, but by active friction of the affected parts?

These are questions which, we think, are almost quite incompatible with the doctrine that chronic rheumatism is *always* an inflammatory disease.

If this reasoning be correct, it must follow that various affections, dissimilar in character, symptoms, and curability, are inclosed under the general term of chronic Rheumatism.

It is most important that the young, and many too among the older, practitioners pay attention to the distinction now alluded to, in order that they may direct their treatment on more stable and successful principles, than they have hitherto done.

For example, chronic Rheumatism, when it is dependent upon a low or chronic degree of inflammatory action in the affected parts,—and this may be inferred when the pain is made worse by heat, friction, and exercise, when the parts are tumified and tender, when the symptoms are permanent and not subject to alternations of aggravation and abatement, when they have supervened on an attack of the acute form, and when they are more or less independent of the state of the bowels—requires for its treatment the use of leeches and soothing fomentations, or of the warm bath, the administration of some mercurial with or without opium and ipecacuan, of purgatives and diuretics, a low diet, and in short a moderate and regulated antiphlogistic regimen.

The other form of chronic rheumatism is decidedly rather of a *neuralgic* than of an *inflammatory* nature. It is almost unnecessary for us to do more than simply to call the attention of our readers to the subject, after what we have already said. It is in this form of the disease that the use of the stomachics and tonics,—always provided the bowels and kidneys have previously been brought into a healthy state—change of air, travelling, chalybeate baths and waters, &c., are so pre-eminently useful.

Along with these means, the greatest attention must be paid to clothing, not only indeed in this, but also in all the forms of rheumatism. The use of flannel clothing next the skin, Summer and Winter, is indispensably necessary.—*De l'emploi de l'opium dans les Phlegmasies, &c. Par M. J. L. Brachet.*

Remarks.—We have interposed a good many observations of our own among the preceding extracts from M. Brachet's memoir.

On the whole we approve generally of the sentiments which he has expressed; and we have been much pleased to find that so able a physiological writer is at the same time a talented practitioner.

He, like many other of the best physicians in France, has not allowed his mind to be misled by the exclusive doctrines of Broussaism:—the very admission that the inflammation of Rheumatism is not altogether analogous to a simple phlegmasia, and that there is a special *something* in it which gives the disease its peculiar character, is quite heterodox in the eyes of the so-called physiological physicians.

We ourselves have repeatedly exposed the fallacies of the Broussaist creed, not only in reference to rheumatism, but also in its application to fever and several of the phlegmasiæ.

M. Bouillaud, being one of its most zealous and able advocates, has exposed himself more than others to our remarks. His recent works on Medical Philosophy, on Rheumatism, on diseases of the Heart, and on medical Clinique have, all been amply noticed in the pages of this Review, and have thus enabled us to expose the errors, to which any exclusive system of medical doctrine must necessarily lead its proselytes.

In taking leave of M. Brachet's Memoir on Rheumatism, we ought to observe that no mention is made of mercury, or of colchicum in the treatment of the disease. We regard both as very powerful agents in the cure of all rheumatic affections, chronic as well as acute. Many of the most stubborn cases of the chronic form will be found to yield to a course of the blue, or of Plummer's pill, taken at bed-time, and of an aperient mixture, such as the following, taken next morning.

℞ Infusi sennæ, ℥iij.
——gentianæ comp. ℥ij.
Magnes. sulphatis, ʒvj.
Tinct. jalapæ, ʒiij.
——cinnamoni comp. ʒiij.
Vino semin. colchici, ℥iss.
Misce.

Warm clothing, and the occasional use of a warm bath should be adopted at the same time.—*Rev.*

Cases Illustrative of Albuminuria, or Bright's Diseases of the Kidneys.

The following cases are adduced by M. Forget, one of the professors at Strasbourg, as examples of structural disease of the kidneys, which, he believes, is invariably indicated by an albuminous state of the urinary secretion.

It may be necessary to caution our readers against an unreserved admission of this doctrine—that, whenever the urine is found to be albuminous by the action of heat, or by the addition of nitric acid or of corrosive sublimate, there is reason to suspect a morbid affection of the kidneys;—as it is admitted by most of the best physicians in this country that *albuminuria* (to use M. Forget's term) is not unfrequently present with diseases of other organs, and when there is no good reason to suppose that the kidneys are affected. Drs. Wells and Blackall, many years ago, pointed out the frequent existence of this state of the urine in acute dropsy, more especially in that form of the disease which often supervenes upon scarlatina and other exanthematous diseases; and more recently Dr. Darwall and some other writers have assured us that they have repeatedly detected the same chemical condition in dropsies connected with diseases of the heart.

Although therefore *albuminuria* cannot be considered—as M. Forget seems to suppose—as invariablycharacteristic and indicative of disease of the kidneys, we may mention that, whenever this state of the urine is present, unaccompanied with dropsical symptoms, and more especially in a drooping or cachectic constitution, there is reason to suspect the kidneys as the seat of some morbid process. Not a few of those obscure chronic affections, which prove fatal without exhibiting, during any period of their course, any very marked or pathognomonic symptoms, have been found on dissection to be connected with, if not immediately dependent upon a diseased state of the kidneys.

Dr. Johnson, the senior editor of this Journal, has recorded several interesting cases of this description. With these preliminary remarks, we now proceed to narrate briefly some of the most interesting observations from M. Forget's memoir.

Case 1.—*Anasarca; albuminous urine; granular affection of the kidneys.*

An unhealthy semi-idiotic women, 30 years of age, was admitted into the Strasbourg Hospital, in consequence of general anasarca.

There was an obscure fluctuation in the abdomen; but there was no reason to suspect disease of the liver, spleen, or any of the thoracic organs. The urine was scanty, but of a normal appearance.

By applying heat, or the nitric acid to it, a copious flaky white precipitate was formed. Medicine made no impression upon the symptoms. She was tapped, and from eight to nine *litres* of serum evacuated from the abdomen. Diarrhœa and bronchitis came on; and the patient died in six weeks after her admission.

Dissection.—Thoracicviscerahealthy. The peritoneum was vascular,sprinkled over pseudo-membranes, and 'criblée, with numerous white tubercular granulations. The omentum was agglomerated together into one mass. The mucous membrane of the intestines was every here and there highly injected. The liver and spleen were healthy. The left kidney was slightly enlarged; its surface was whitish or of a morbid red or grey colour, and uneven; the cortical substance was pale, bloodless, and granulated with small white irregular spots. The right kidney was double the size of the other; its surface was greyish and sprinkled over with sanguineous patches; its texture was soft, and very granular; the cortical substance was yellowish and somewhat degenerated.

Case 2.—*Anasarca; albuminous urine; recovery.*

A youth, after a week's indisposition, became affected with œdema of the limbs. There were no symptoms indicative of thoracic or of abdominal disease. He was bledto a small amount, and then treated with diuretics. A few days afterwards the pulse was found to be somewhat stronger and more rapid, and the heart beat with more than usual force. He was cupped over the sternum. At this period, the urine was examined, and ascertained to be albuminous, when nitric acid was added. M. Forget pronounced the case forthwith to be one of 'granular affection of the kidneys.' The antiphlogistic treatment was rigorously persisted in; and in the course of a month the patient was pronounced to be quite well; the anasarca having disappeared, and the urine having lost its albuminous character.

Remarks.—It is altogether conjecture on the part of M. Forget to call the preceding case of disease of the kidneys. The patient never, even on minute enquiry, made any complaint of uneasiness in the loins, &c.; and the mere circumstance of the urine having been albuminous is certainly not, in our opinion, sufficient to warrant such a diagnosis. Dr. Darwell no doubt would have adduced this case as confirmatory of his doctrine that *albuminuria* is frequently co-existent with dropsy, connected with affections of the heart.—*Rev.*

CASE 3.—*Anasarca; albuminous urine; cure of the dropsy; persistence of the albuminuria.*

A poor sickly youth, 17 years of age after exposure to cold, was seized with general lassitude, cough, dyspnœa, and œdema of the legs. The urine was rather scanty, but not high-coloured. He was bled to eight ozs. and treated with digitalis and squills. Four days afterwards the urine was examined and found to be very albuminous. He made no complaint however of any uneasiness in the loins, even when firm pressure was made. He was treated with cupping of the loins, the use of vapour baths, frictions with the tincture of squills and digitalis, &c. In three weeks the dropsical symptoms had ceased; but he was still tortured with cough and other bronchitic annoyance. The urine too, even when he left the hospital appeared to be pretty well, continued to be very decidedly albuminous, when treated with nitric acid. M. Forget predicted that the dropsy would return, but he heard no more of him.

Remarks.—This case has certainly more right to be deemed one of *suspected* disease of the kidneys than the preceding The persistence of the *albuminuria* is always an unpleasant symptom. —*Rev.*

CASE 4.—A women, 43 years of age, was admitted the second time into the hospital with symptoms of dropsy of the limbs and abdomen. She was suffering also from thoracic distress which indicated an effusion of fluid into the cavity of the pleura; and the sounds of the heart, although not decidedly abnormal in character, were diffused over a greater extent than in health. The urine was scanty and very albuminous. She had slight uneasiness in the loins. She continued under treatment for nearly three months, but nothing seemed to have any decided benefit.

On dissection, the cavities of the pleuræ were found to contain a large quantity of serosity. The heart was nearly normal. None of the abdominal viscera were decidely morbid, with the exception of the kidneys. Both were somewhat enlarged, and uneven and mottled with seemingly ecchymosed spots on the surface. When stripped of their *tunica propria*, which adhered rather loosely, the surface exhibited numerous small whitish granulations; the cortical substance was pale, yellowish and granular, and the tubular portion was of a deep livid colour.

The fifth and sixth cases are not very satisfactory. In the former the patient complained of pneumonia, without any symptom of dropsy, and the kidneys were found to be slightly granular. In the latter also the patient was labouring under pneumonia; but this was complicated with anasarca; the urine was very decidedly albuminous; and yet the man recovered, at least for the time. M. Forget anticipated a speedy relapse, in consequence of the *albuminuria* continuing.

The seventh case is especially interesting, as it affords an indisputable example of most complete *albuminuria* during life, when the kidneys were found to be 'parfaitment sains, sans anemie ni granulations.' The patient, a middle-aged women, died from disease of the heart—(the heart was generally hypertrophied, and the mitral valve particularly was ossified and contracted)—which produced anasarca and ascites.

M. Forget acknowledges that the result of this case has very much surprised him, as he had been led to suppose that, '*whenever there is dropsy with* albuminous urine, the kidneys are always diseased.' Had he been better acquainted with English medical literature, our author could not have fallen into this mistake; but like most of his countrymen, M. Forget is apt to be far too exclusive and one-sided in medical doctrine.

The eighth case too comes in support of the views we have inculcated—viz. that albuminous urine is not invariably the sign of disease in the kidneys. In it the patient died of heart-disease; and the kidneys 'n'etaient pas sensiblement alterés.'

In the 9th case, the patient had been long suffering from all the symptoms of heart-disease. She became dropsical and died. The urine had been for a length of time very albuminous. On dissection the heart was found to be much hypertrophied and its valves partially ossified. The kidneys were decidedly granular.

These cases therefore very pointedly illustrate the frequent co-existence of *albuminuria*, with diseases of the central organ of circulation.—(*Gazette Medicale de Paris*), *Sept.* 1837.

PATHOLOGY OF PUERPERAL FEVER (METRO-PERITONITIS). By Dr. NONAT.

Dr. Nonat is one of the physicians of the Central Bureau of Hospitals, and had an opportunity of witnessing many cases of this distressing malady in 1831. The memoir, which he has written on the subject, was deemed of sufficient importance to be printed by the Society of Medicine.

We shall give a short summary of the anatomical appearances, which he discovered on dissection.

1. *Lesions of the Uterus.* The outer surface of this organ was usually injected; sometimes over its whole extent, at other times in patches; more distinctly at the lower part than towards the fundus, and at the sides more than in the middle. Occasionally ecchymosed spots were observed around the *os tincæ*; but this appearance, be it remembered, is not unfrequently found, when no puerperal fever has ever existed.

On the inner surface of the uterus, the debris of the lochial secretion and of the placenta was found. This was of a semi-fluid pseudo-membranous appearance, of a yellowish brown colour, and often most fetid and offensive. On removing this *detritus*, the surface of the uterus itself was usually found to be softened or even pulpy, and of a yellowish, or of a livid hue. In some cases, the entire substance of the organ was soft throughout, and readily tore on stretching it; while, in other cases, the *ramollissement* affected chiefly the cervical portion.

Besides these morbid appearances, a purulent infiltration occasionally pervaded the parieties of the uterus, more especially round its cervix. In not a few instances, small abscesses (foyers) were found imbedded in the uterine substance;—these were most numerous towards the lateral parts, near to the attachment of the ligaments, in the cellular texture surrounding the cervix uteri. Two cases of genuine gangrene of the uterus occurred in my researches.

2. *Lesions of the Uterine Lymphatics.*—It is well known that these vessels very greatly enlarge during gestation. When filled with any coloured fluid, it is very easy to trace them; as some attain the size of writing-quills. On leaving the uterus, they collect at the line of attachment of the broad ligaments, and from four or five main trunks, which accompany the spermatic vessels, and proceed on to the lumbar and sacral glands.

In several cases these vessels and glands were filled with a white, inodorous fluid, similar in every respect to the pus of a healthy abscess.

They could be readily traced, along their whole extent, and exhibited numerous alternate dilatations and contractions The lymphatic vessels, distributed in the substance of the uterus itself, never presented any appearance of purulent matter. The lumbar glands were often enlarged, infiltrated with pus, soft and easily lacerable. The *vasa efferentia* from these glands were not unfrequently injected with pus; and thus their numerous plexuses around the large blood-vessels and along the bodies of the vertebræ were distinctly and beatifully visible. In one case only did the Thoracic duct, to the extent of two or three inches of its course, contain a purulent fluid: in all the others, its contents were quite transparent.

M. Nonat is of opinion that the purulent contents of the lymphatics are, in many cases at least, generated in these vessels themselvesin consequence of an inflammatory action of their parietes, and not always absorbed from the substance of the uterus or from the cellular tissue, as Velpeau, Duges and Duplay imagine.

This point however in the pathology of puerperal fever is still undecided; and perhaps it is a matter more of curiosity than of much practical importance.

It is not improbable that the mere presence of a foreign fluid, such as pus, in the vessels excites an irritative action in their parieties; and the effect of such irritation may very possibly be to increase the amount of their purulent contents.

3. *Lesions of the Uterine Veins.*—These vessels, in numerous cases, presented all the appearance of inflammation. They were larger than in health; their parieties were very vascular, of a brownish red colour, thickened and more or less softened. In some cases, the veins on one side only of the uterus were diseased; but more frequently the inflammatory lesions had affected the vessels on both sides, and along their whole extent from the uterus to their *embouchure* in the vena cava, or one of the renal veins.

In a few cases, the morbid action was traceable in the hypogastric, iliac, and crural veins; and occasionally the vena cava itself was not exempt. The contents of the inflamed veins were usually of a brownish or yellowish colour, varying in consistence from that of ordinary pus to that of sanies. In the smaller branches little or no blood was discoverable; but in the larger ones the pus was mixed with sanguineous clots; and, in proportion to their distance from the uterus, the quantity of blood to that of pus increased. In one case only did the contents of the veins emit an offensive gangrenous odour, similar to that of the substances found in the cavity of the uterus.

The diseased veins were generally much thickened in texture, and their internal surface was injected and occasionally lined with membraniform deposits: their coats were in most instances sensibly softer than in health.

M. Nonat tells us that he traced the diseased veins very generally to that point of the uterus, where the placenta had been attached; and in all his examinations their orifices were plugged up with a coagulum. In not one case, were they found open or gaping on the internal surface of the uterus. He also mentions that such was the state of the veins, at some little distance from the seat of the malady,—so plugged up with coagula of blood—that it was quite evident that the purulent contents of the diseased branches never could be conveyed into the circulating mass; and hence he very fairly concludes that the typhoid symptoms of puerperal fever cannot be attributed to the corruption of the blood, in consequence of the absorption of pus into its current, but are altogether referrible to the effects of the local mischief on the general powers of life.

M. Nonat is of opinion that the pus in the veins is generated in these vessels, and is not the mere result of absorption from the cavity or substance of the uterus, as some writers have alleged.

4. *Lesions of the Peritoneum.*—In a large majority of fatal cases of puerperal fever, this membrane is found on dissection to exhibit more or less distinct marks of inflammatory action.

Besides well-marked vascularity, either continuously for a considerable extent or in patches, we frequently observe depositions of pseudo-membrane on its surface, and also an effusion, variable in quantity from eight or nine ounces to several pints, of a sero-purulent fluid in the cavity of the abdomen. This fluid often contains numerous flocculi, not unlike to the white of egg.

Other serous membranes besides the peritoneum are often found similarly diseased in many cases of metro-peritonitis.

Of these the pleuræ are most frequently affected: they are inflamed, partially coated with membraniform exudations, and their cavities contain a sero-purulent effusion. The synovial membranes of the large joints also are, in not a few instances, equally morbid.

M. Nonat has in no case discovered any well-marked traces of disease in the membranes of the brain, or in the pericardium.

And here it is especially worthy of notice that the above-mentioned lesions may be found most extensively in the serous membranes of the abdomen and of the thorax. and also in the synovial capsules, while no traces of inflammation, either of the veins or of the lymphatics of the uterus are discoverable.

This fact, therefore, affords an incontrovertible objection to the idea that the disease of these vessels is primarily and essentially the source of mischief in puerperal fever.

5. *Lesions of the Digestive Tube.*—The researches of M. Nonat most satisfactorily establish the fact that, in the majority of cases of puerperal fever, there are no important lesions of the intestinal canal.* The mucous membrane may be lightly vascular in points or points: but it is most generally pale; and its glands, aggregate as well as solitary, are healthy. The only morbid appearance, says our author, which seemed to me to be constant, was the presence of a large quantity of yellowish or green bilious fluid, which filled the stomach and intestines.

We ought however to add, that in cases of puerperal fever which have lasted very long, we do sometimes meet with certain lesions of the intestinal tube—such as redness, softening, and partial effusion of lymph—which are indubitably of an inflammatory origin.

Such are the most frequent and important morbid phenomena found in fatal cases of Metro-peritonitis. There are others of occasional occurrence, which deserve to be enumerated. Thus, for exanple, M. Nonat found in one case a large quantity of pus in the tendinous sheaths of the forearm; in another, the mediastinum and portions of the lungs were infiltrated with pus; and in a third case, in which the iliac veins were remarkably inflamed, there were several vomicæ dispersed through the pulmonary tissue.

M Nonat remarks that, as well as he can judge from his researches, *secondary abscesses* are on the whole of less frequent occurrence after uterine phlebitis, than after the other forms of venous inflammation. Whether this difference is attributable to the circumstance of the visceral veins being more readily and completely obstructed by coagula—so that the introduction of their morbid contents into the circulating current is less easy and frequent—than the veins of the extremities, we are not warranted in deciding.

Lastly, M. Nonat alludes to the state of the blood itself, as one of the pathological characters of puerperal fever. He confesses that hitherto he is not prepared with any satisfactory observations on this interesting subject; and suggest the probable advantage of microscopical researches to aid our inquiries. The blood in this disease is almost always thin, and in, what is called, a dissolved state. It does not readily coagulate; the clot being usually very soft and imperfect, and the same being of a sanguineous colour.—*Revue Med.*

The memoir of M. Nonat is a very valuable one. The obstetrical reader will do well to take a memorandum of where it is to be found. It is contained in the Sept. No. of the Revue. It deserves to be printed as a monograph.—*Rev.*

ON PHLEBITIS AFTER SURGICAL OPERATIONS.

It is a curious fact in the history of this form of Phlebitis, that we sometimes find veins at a distance from the wound inflamed and filled with pus, while the intermediate vessels are exempt from these morbid charges. The following is an example.

A man received a gun-shot wound in

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* Might not this circumstance open the eyes of those exclusive pathologists, who can see nothing in typhoid fever, but a mere inflammation of the intestinal canal? Surely the analogy between puerperal and typhoid fevers is sufficiently close to warrant the physician in expecting *some* degree of resemblance in their pathological phenomena.

the knee-joint during the disturbances in July 1830: the limb was amputated. A fortnight afterwards the patient exhibited symptoms which caused suspicion of *purulent infection:* he died in a few days.

The crural vein at the Fallopian ligament, and also the external iliac vein were thickened, coated with lymph, and contained purulent matter. The crural vein between this point and the wound, as well as its branches, were quite healthy; and its divided end was plugged up with a clot of blood. The periosteum of the os femoris, for a considerable extent, was loose and detached from the bone.

Dr. Blandin's researches throw some light upon such cases. He is of opinion that the origin of phlebitis, in such cases as we are now treating of, is very frequently in the veins of the osseous texture.

It is of great importance, therefore, that the attention of the surgeon be directed to this point in the post-mortem examination of such cases; more especially when the veins at a distance from the wound are found diseased, while the extremities of the divided vessels are exempt from any morbid change.

M. Blandin says, that it is only after amputation of the limbs, where bones have been sawn through, that the occurrence of *distant* phlebitis is discovered; and that, when the veins become inflamed after other surgical operations, in which the soft parts only are cut, the morbid action may always be traced from the divided extremities of the vessels.

Now, what is the cause of this difference? Perhaps it is to be sought for in the peculiarity of the veins of bones; —being not capable of closing or contracting upon their cavities as the veins of the softer parts.

This phenomenon is, M. Magendie assures us, readily confirmable in the living animal.

Every wound, involving the section of a bone, must continue to ooze out blood for some time.—if not from the soft, at least from the osseous surface. How distinctly is this the case in wounds of the cranial bones.

By attending to this peculiarly in the veins of osseous parts, we may explain how inflammation, when it attacks the surface of a wound, may very readily extend along these vessels. Besides; this patent state of the veins of bones must render them more ready to absorb any purulent or other discharge. We must not, however, push these conjectures too far. It is sufficient for our purpose to direct the attention of surgeons, in examining the pathology of phlebitis and secondary abscesses after amputations, &c. to the condition of the osseous veins. In some cases we find that the medullary substance of the divided bone has been converted into a *putrilage*, and its canal filled with an offensive pus. M. Blandin mentions that he met with these morbid appearances six different times, and M. Nonat alludes to one remarkable case.

This latter gentleman has come to the conclusion that pus is very seldom, if ever, absorbed by the veins into the system, so as to give rise to that train of symptoms usually designated by the term *purulent infection.*

He is of opinion that this most fatal state is rather owing to the formation of pus in the veins themselves, in consequence of a previous inflammation of their inner surface.

Some physiologists have attempted to prove the former doctrine by alleging the results of certain experiments, wherein purulent matter was injected directly into the blood. But granting that a serious disturbance of the health may be—as indeed all analogy might lead us to expect—induced in this manner, the question as to purulent absorption is still left undecided. We are therefore led to the conclusion that the train of formidable symptoms, which follow sometimes amputations of the limbs, at other times delivery and so forth, is attributable not to the direct absorption of purulent matter into the system, but to inflammation having attacked the inner surface of the veins, and having, as generally happens, terminated more or less extensively in suppuration.—*Revue Medicale.*

ON A PECULIAR AFFECTION OF THE FORE-ARM—INFLAMMATION OF THE SHEATHS, &c. OF CERTAIN MUSCLES. BY M. MAINGAULT.

There is an affection of the lower extremity of the fore-arm, which is scarcely alluded to in surgical works, and which nevertheless is sufficiently important to merit attention—we mean the inflammation of the *grooves* on the radius in which the *Radiales externi* muscles play.

Boyer, in his Treatise on Surgery, has devoted only a paragraph or two to the mention of his complaint, when treating of fractures of the lower extremity of the radius. His words are: "It is well to observe, in reference to this sign (crepitation) that persons, who use their hands much in laborious and fatiguing work, are subject to a peculiar affection of the cellular tissue surrounding the *extensor brevis*, and the *abductor longus pollicis*, in which these muscles become more prominent than usual, and give out on pressure a crepitating-like sound, or one like that which we hear when starch is pressed between the fingers. This sensation is indeed very different from that of genuine crepitation produced by the rubbing together of the broken end of a bone, and cannot well impose on the cautious surgeon."

M. Maingault has seen many cases of this affection, and seems to have examined it with peculiar care.

Boyer, he says, is quite right in stating that it is common in persons who work much with their hands; but, he adds, it is less from the actual fatigue, than from the nature of the work, that the affection seems to proceed.

Those persons are especially subject to it, who have to press hard upon the substances on which they have to work, and who moreover have to use a twisting movement of their wrist-joints, so that the hand and the fore-arm are kept in a forced pronation, and the extensor and abductor muscles of the thumb are at the same time powerfully contracted. Those movements tend to stretch the fibrous sheaths which envelop these muscles, and also to irritate the synovial membranes of the grooves, on the bone, in which they play.

The workmen, most subject to this affections, are hat-makers, curriers, harness-makers, plasterers, dyers, and washing people. Youths also, who engage much in gymnastic exercises, sometimes suffer from it.

Persons who write a great deal, painters who use the brush for a length of time, and those who are obliged to keep their hands long in a constrained position, often experience a sense of weariness, amounting almost to pain, on the outer side of the right wrist-joint and fore-arm. Frequent repetition of these exercises will induce a swelling, and a certain degree of induration of the parts; and hence we not unfrequently observe in such persons a longgitudinal firm prominence or bumb, extending from the metacarpal bone of the thumb to the lower third of the radial side of the fore-arm.

This prominence occasionally presents the appearance of two cords, separated by an intervening groove or depression. This depends upon the anatomical arrangement of the tendons: those of the short *flexor* and of the long *abductor* of the thumb lying in one groove of the bone, and that of the long *extensor* lying in another, somewhat behind the former.

The affected parts are sometimes exceedingly tender after exercise, so that all movements of the thumb are nearly impracticable. When the tenderness, &c. have subsided, we may then often perceive that peculiar crepitating-like sound on pressure, which Boyer has alluded to. In addition to fracture of the lower extremity of the radius, there is one form of luxation of the wrist-joint, which may possibly be confounded with the affection of the tendinous grooves and sheaths now described. M. Maingault mentions that when children are lifted up by one hand, for the purpose of carrying them over a puddle or stream, the radius may be slightly displaced from its play on the ulna, in consequence of the forced pronation wich then takes place. Such an accident however may be distinguished from the affection, of which we have been treating, by several signs; as, for example by the fixed position of the hand in a state of pronation, and by the projection of the end of the radius.

But to return to the proper subject of these remarks, we may mention that it may possibly be mistaken for a rheumatic or gouty inflammation of the wrist-joint. But the persons most subject to the former are not exposed to the ordinary exciting causes of gout at least; and moreover the strictly local seat of the swelling and pain would necessarily make the medical man pause in his diagnosis.

The parts which, according to M. Maingault, are chiefly affected, are the tendons of the muscles on the outer side of the radius, the fibrous grooves in which these play, the synovial membrane which lines them, and the cellular tissue which invests all.

With respect to the treatment of this affection, rest of the part and the use of a roller, passed somewhat firmly round the wrist, will generally suffice to remove it. In some troublesome cases, it will be well to apply a pasteboard splint on the outside of the joint, and retain it in its position by a few turns of a bandage.—*Revue Medicale.*

[We should consider that strapping the part with the emplast. hydrargyri spread on leather might be very useful, and least troublesome.]

On the Utility of very large Blisters in White Swellings and other Tumors of the Joints.

M. Velpeau assures us that he has obtained the most gratifying success from blistering the entire knee-joint—and that too repeatedly—in several cases of white-swelling. The ordinary practice of applying a succession of small blisters is not nearly so efficacious, and on the whole is much more painful. He has used it, he says, in upwards of 200 cases; and almost always with indisputable benefit. (As a matter of course, we may reasonably suppose that, in the majority of these cases, the disease was not real white-swelling, but only a chronic inflammatory enlargement of the joint).—*Rev.*

This *vesicatoire monstre* is to be kept on the part for 24 hours, and then dressed with any simple ointment spread upon blotting-paper.

An English servant was admitted into La Charité Hospital under the care of M. Velpeau. The right knee was enormously swollen; the distended capsule appeared to reach upwards nearly to the middle of the thigh, and downwards to the spine of the tibia. The inequalities of surface, the fungoid aspect, and the instinct deep-seated sense of fluctuation—all these signs indicated the existence of a most serious *arthropathy.** The disease had lasted for ten months, and had resisted various treatments at different times.

M. Velpeau ordered a blister, of a foot in length and ten inches in width, to be applied round the enlarged joint. the report closes by stating that he, M. Velpeau, saw the patient only three times more; and that a perfect cure was effected in less than two months.

Another case, more remarkable as having been pronounced by many excellent surgeons in Paris as incurable, save by amputation, is then described. It occurred in a woman, in whom the right knee was larger than the head of an adult, and presented " tous les caractères du *fongus articulaire.*

The case had been adjudged, some time before, to one of the candidates for the vacant chair of clinical surgery; and it was then given as the opinion of most who examined it, that it was probably beyond all remedial treatment. And yet two *monster blisters* have sufficed to effect an entire cure of this immense swelling. The effused fluid was rapidly absorbed, and the joint recovered almost its normal dimensions.

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* In this country, at least, such a case would certainly not be regarded as one of *white-swelling.* It seems to have been one of simple chronic inflammation, which had terminated in large effusion into the cavity of the joint.—*Rev.*

[Is it not strange that such a case as this could possibly have been deemed one of malignant disease by any experienced surgeon? and yet here we have a man of acknowledged repute, M. Velpeau, lending himself to such a statement. If true, it gives us a sorry opinion of the diagnostic talent of many Parisian surgeons.—*Rev.*]

So great had been the distention of the capsular ligament, that the joint could be nearly dislocated backwards at will, for some time after the fluid had been absorbed.

In addition to these large blisters, M. Velpeau talks praisingly of various pommades, &c. as powerful means to dissipate articular swellings; but as we have no intention at present to discuss the subject of *arthropathies*—(such is the new term for diseases of the joints) —we shall pass them over.—*Archives Generales.*

CASES OF FRACTURE.

CASE 1.—*Fracture of the Patella by Muscular Efforts.*—A man, 46 years of age, was admitted into the infirmary of the Hôtel des Invalids, on the 22nd of June. On the preceding day, when coming down the steps of one of the *trottoirs* at the Pont Neuf, he missed his footing. Feeling that he was about to fall back, he made a violent effort to save himself by throwing the body forwards. He succeeded so far as to come down fairly on his buttocks, without his head touching the ground. But when he attempted to get up, he found this to be impossible. When brought to the hospital, the right patella was discovered to be fractured transversely.

The man sustained no other injury.

This case confirms the remark made by Boyer, that, in the majority of cases of fractured patella, the fall is the *effect*, and not the *cause*, of the accident.

CASE 2.—*Fracture of the Femur, spontaneous.*—M. Olin, a sub-lieutenant, was admitted into the hospital on the 18th of June. He had been for a considerable length of time affected with paralysis of the left lower extremity.

On the day previous to his admission, M. Olin, while lying in bed, began to exercise his limbs in a variety of movements, with the view of giving pliancy and elasticity to the weak joints. He had been long in the practice of doing this every morning before he rose.

While attempting to bring the paralysed limb up towards his right shoulder, he suddenly heard a snapping, as if something had given way, but without feeling any pain. The limb however he found to be deformed, and when he made an effort to rest on it, he found that it gave way under him.

When brought to the infirmary, the surgeon discovered a fracture of the upper extremity of the femur, just below the trochanters.

There had been no reason to suspect at any time disease of the structure of the bone itself.

M. Perier, the surgeon of the ward, judiciously remarked that, in consequence of the paralysis of the limb, the energy of the nutritive process had probably been for a length of time in an impaired condition, and that the osseous tissue might thus have become more friable than in a state of health.

The fractured limb was placed in the immoveable apparatus of Baron Larry; substituting however, as a varnish, a concentrated solution of starch in place of the alcoholic mixture recommended by this celebrated surgeon.

The former, when cool, becomes still more adhesive than the latter; and moreover it has the advantage of being easily removed, by merely wetting it with hot water.—*Gazette des Hôpitaux.*

POISONING BY NITRIC ACID:—SUBSEQUENT INDURATION OF THE PYLORUS AND DEATH.

A man 34 years of age, swallowed a wine-glassful of nitric acid, for the purpose of self-destruction. The greater portion of it was immediately rejected by vomiting. However an intense gastritis supervened, and was combated with active bleeding, the application of numerous leeches, the internal use of calcined magnesia, &c.

He was taken to the La Charité on the 8th day after the accident, and Professor Bouillaud continued the same course of treatment; and with such decided beneficial effects, that the patient was able to leave the hospital in three weeks. But within a month from his discharge he returned, in consequence of the severe pain he experienced along the tract of the gullet and at the epigastrium, and of frequent vomitings, especially after taking food. To these symptoms were added signs of an acute ascites; and although they were speedily subdued, the patient gradually sunk, and died about the middle of September—three months from the date of the poisoning.

On dissection, the pylorus was found so contracted, that its diameter did not exceed a line or two; and it contraction extended for an inch and a half along the commencement of the duodenum; the mucous membrane exhibited patches of redness, and of *ramollissement*, and also several cicatrices of ulcers; the subjacent tissues were scirrhous, and of a lardaceous aspect.

REMARKS ON EPIDEMIC DISEASES.

M. Villeneuve published a statement some time ago, of his extended investigation of the epidemics which have been known in France from the year 1771 to 1830, and of which reports, amounting in number to 1160, had been sent to the Academy. The great arrear of business, which the Royal Society of Medicine, and the Society of the Faculty of Medicine at Paris, had bequeathed to their successor, the present Academy, had made such an enquiry, as that of which the report was now presented, quite necessary; seeing that it has always been the duty of these three respective institutions to supply the government with all necessary information on the important subject of Epidemic diseases.

In the prosecution of the enquiry, M. Villeneuve experienced considerable difficulty in determining the specific nature of the epidemics which have prevailed since the year 1771, and consequently in arranging them in their respective groupes.

This arose, partly from the imperfect descriptions which had been given of them, and partly from the varying and undefined nomenclature which had frequently been adopted.

By far the most universally alleged causes of epidemics, to judge from the numerous reports which were examined, appear to be

1. Alterations in the condition of the atmosphere — induced by exhalations from ponds, marshes, peat-lands, dunghills, burial-grounds, &c.

2. Insalubrity of dwellings—whether this proceeds from a faulty construction of these; from the accumulation of wares and articles of provision; from the uncleanliness of the inhabitants; or from their being too much crowded together.

3. The bad quality of foods and drinks. And here it must he observed, (however painful the report will be) that it is but too true that, at various periods in certain districts of "notre Belle France" the most necessary articles of subsistence have been not unfrequently wanting, and the people have been forced to eat the very grass of the fields, and have not even had wholesome water to drink. (!)

4. Excess of labour, and unwholesomeness of some employments.

5. Debilitating moral influences, ignorance, and certain pernicious prejudices and costoms.

In illustration of the last-named circumstance, our author mentions that in the department of the Oise, during the prevalence of the "Suette," or sweating sickness, which prevailed there in 1821, it was a very general practice to confine numerous patients together in close and heated chambers, to load them with bed-clothes, and ply them with stimulating drinks, &c., for the purpose of preventing the accession of sleep;—for this was deemed to be almost always fatal!

CACHEXIA AQUOSA IN EGYPT.

This disease is endemic among the poor and working classes in Egypt. It usually commences its ravgaes after the inundation of the Nile, attacking chiefly those who work in the lands which are or have been overflowed. Its earliest symptom is an excessive weakness and languor of the whole system, and its general effects are somewhat akin to those which occur in scurvy, chlorosis, and elephantiasis. Very frequently it is complicated with dysentery; sometimes the local affection precedes the constitutional cachexy.

The only treatment which is of any avail, is the removal of the patients from the unhealthy localities, and the ample allowance of light nutritious food. Belladonna was occasionally useful, to allay the palpitations which distressed many of the sufferers.

The same description of disease prevails among the sheep, which feed in the low and marshy grounds of Egypt.

The inhabitants attribute it to their eating a deleterious plant, [the name is not given.] It bears some affinity to what is called the *rot* in Europe, but is never accompanied with the *staggers*. From 15 to 16,000 sheep are annually destroyed by this cachexia.

RAW POTATOES IN SCURVY.

A surgeon of a Fench South-sea whale ship informs us, that the health of the crew began to decline very much on the homeward-voyage. "Un matin," says the quick-eyed doctor, "je m'aperçus que le visage des hommes palissait: ils etaint enervés:" but Heaven was kind: for the symptoms of this "affection redoutable furent aussitot combatues que remarques."

The remedy was novel: a bucketful of raw potatoes was ordered to be put on the deck at the foot of the mainmast, every morning *at eight bells*, and the sailors were advised to eat freely of them, as they would do "des meilleurs fruits d'espalier!" What was good for the men, was not bad for the masters. The captain and doctor assure us that they themselves found "à ces tubercules un saveur agreable, fraiche à la bouche et suerée." The effect was, as we might have guessed, most marvellous. The bucket was filled every morning, and not one *pomme de terre* was ever to be seen by the evening. Monsieur continued to enjoy his daily feast till the ship arrived at Havre, after having been ten months at sea, without touching at any port. In conclusion, says our author, "on peut considerer le pomme de terre comme la Providence des navires dans les voyages de longs cours."—*Annales d'Hygiene, &c.*

INTENSE CEPHALALGIA, INDUCED BY THE PRESENCE OF GRUBS IN THE FRONTAL SINUSES.

A woman presented herself recently at the hospital in Sienna, complaining of intense headache. The pain was most severe over the forehead; and often it was so distracting that she became delirious.

She said that, some time before, a common fly had got up one of her nostrils; but, whether it ever came out again, she did not know. The physician in attendance, suspecting that there might possibly be some of its ova deposited in the nasal cavities, advised her to fumigate her nostrils with the vapour of some anthelmintic substances. Judge of her surprise, when, a few hours afterwards, she found that several full-formed grubs were discharged. Upwards of fifty came away during the next week. These grubs were at once recognised to be those of the common flesh-fly, (*mosca di carne.*)

To prove that there was no mistake, several of them, being kept in favourable circumstances, passed from the state of chrysalis to that of a perfect fly. The woman was at once relieved from all her sufferings.—*Bulletin Med. Belge.*

DYSMENORRHŒA RELIEVED BY THE FUMES OF CARBONIC ACID.

Every physician is aware that some females suffer most severe pains in the uterine region, for one or more days before each appearance, and not unfrequently also during the continuance of the catamenial flow. Young girls residing in large towns are perhaps more subject to this distress than any other females;—their systems being often unusually irritable, and this excess of irritability being very generally associated with constitutional weakness. It is a common remark that such girls menstruate earlier in life than such as are robust, and those who reside in the country. Under these circumstances, marriage will often aggravate the dysmenorrhœa;—the generative organs being apt to be so highly excited by coition, that the accustomed monthly discharge, intended no doubt by Nature as a means of local relief, is either stopped altogether, or is only very sparing and uncertain. The treatment of such cases is often extremely difficult. The employment of the ordinary emmenagogues is very generally pernicious; and even the application of leeches to the feet, or to the vulva, will sometimes only aggravate the sufferings. Professor Mojon of Geneva assures us that he has used injections of carbonic acid gas per vaginam, with the most soothing effects. Like Rasori and Borda, he considers this gas as a powerfully depressing or contra-stimulant agent; and it was by reasoning from its known effects, as such, that he was led to try its effects as a local application to the womb in painful dysmenorrhœa. The gas is easily obtained by pouring diluted sulphuric acid on some pieces of chalk into a flask, (which ought to be provided with a double orifice,) like an inhaling apparatus;—a curved flexible tube is fitted on to one of these, and when the gas is freely disengaged, the extremity of the tube is to be introduced into the vagina, and the fumigation is to be continued for five or six mintues. This remedy may be used two or three times in the course of the day.

M. Mojon assures us that he has employed this mode of treatment in a great number of cases, and very generally with decided advantage. Not only was the pain almost always relieved for the time, but also the menstrual flow, in future, became more regular in its return, and more copious in its quantity.—*Bulletin General.*

UTILITY OF THE FUMES OF CAMPHOR IN RHEUMATISM.

A labouring man, twenty-two years of age, had long suffered from atacks of flying rheumatism; but, as the pains were not severe, he neglected to use any remedial means.

Exposure to wet and cold brought on a smart attack of the disease in its acute form; and for this he had to undergo a vigorous antiphlogistic treatment by general and local bleedings, blistering, &c. The active symptoms were speedily subdued; but the patient continued to experience dull gnawing pains, increased by motion, sometimes in the loins, and at other times in the thighs and legs. Various means were used without much effect; and the physician was therefore induced to give a trial to the ingenious proposal of employing a vapour-bath of camphor-fumes, as recommended by M. Dupasquier in the Revue Medicale for 1826. The patient was made to sit on an open-seated stool, under which was placed a chafing dish. A plate of iron was then put on this dish, and, the patient being enveloped in a blanket, a small spoonful of powdered camphor was thrown, every five minutes, on the heated plate until about half an ounce had been used.—The vapour speedily induced a copious perspiration, and this was promoted by putting the patient into a warm-bed, and giving him copious diluent drinks. The first, and even the second, fumigation did not produce any very decided relief; but by the fourth day (for the treatment was repeated daily) the pains were greatly abated, and the freedom of motion much increased. Considerable debility followed the employment of this medication; but by appropriate means the strength of the patient was speedily restored, and he remained free from his rheumatic pains.—*Journal des Connoissances Med. Chirurg.*

SPONTANEOUS HYDROPHOBIA.

A girl, 16 years of age who had never menstruated, was seized with violent pains in the abdomen, attended with great constitutional disturbance.—Symptoms of dysphagia came on. All efforts to swallow were difficult and very painful. The mere sight however of fluids did not distress her. On the following day, a spasmodic stiffness affected the hands and arms. She was put into a warm bath, which at first she was afraid of entering. Towards evening a general convulsive agitation supervened; the tongue was protruded out of the mouth, and the larynx was forcibly drawn upwards, so as to threaten suffocation. Dilirium, accompanied with lascivious expressions and behaviour, preceded death, which occured at nine o'clock p. m. The dissection of the body was not permitted.

On reviewing the particulars of the preceding case, we regard it as one of the severe forms of Hysteria. It commenced with colic and terminated by nymphomania. No doubt the disease was connected with the changes in the female system, which precede menstruation. Leeches to the labia, and the internal use of camphor form the appropriate treatment in such cases.—*Schmidt's Jahrbucher.*

P. S. We quite agree with the Editor that the preceding case was one of the multiform varieties of Hysteria. It certainly has no title to be regarded as an instance of spontaneous Hydrophobia, as alleged by the reporter, who has occupied several pages of the German Journal in detailing particulars.—*Rev.*

VERATRIA,—REMARKS ON THE EMPLOYMENT OF.

In recent numbers of the Journal de Pharmacie, and of the Bulletin General de Therapeutique, we observe two lengthened notices of Dr. Turnbull's work on Veratria, and the other analogous alkaloids, Delphinia, and Aconitine. The French Reviewers have not added anything to our stock of information on the preparation or medical use of these very potent remedies, nor have they reported any cases of their own, either to confirm or to impugn the accuracy of Dr. T's statements. We are the more surprised at this omission, as our continental brethren are certainly more disposed in general to give a trial to any novel medicines, more especially to such as are of a chemical or artifical nature, than British physicians usually are.

Since the date of Magendie's Formulary, there has not been—as far as we know—any published report in the French Journals of the therapeutic effects of Veratria and the other analogous salts, although the greater part of these medicines, hitherto in use, has been actually manufactured in Paris.

It is now nearly four years since we communicated in the pages of this review—(for July 1834)—some of the results of our own observations on the subject; and, as this communication was the first journalistic or critical notice of Dr. Turnbull's claims, we have felt some interest in ascertaining how far our own judgment has corresponded with the subsequent experience of other professional men. The last paragraph in our notice is thus worded:—" It is therefore our decided opinion that Veratria is a useful and very potent medicine in certain nervous affections, and that it deserves to be, and no doubt will become, an established member of the Materia Medica."

Our predictions have been realized. In the last edition of the London Pharmacopœia, we observed that Veratria and Aconitine are admitted, among the recognised preparations, by the College of Physicians.

It appears too, from various communications in the weekly medical journals, that medical men in different parts of the country have occasionally employed these alkaloids with marked benefit in cases of severe Neuralgia. In one of the recent numbers of the Lancet, we observe a short notice from that most witty of parsons—the Rev. Sydney Smith—of a case of most agonising *tic doloureux*, which was speedily relieved by the use of the Aconitine ointment—one grain to the drachm of lard. The complaint was of seven years' standing; and, at the date of the report, the patient had been totally free from pain for eight weeks.

The Doctor very justly adds—"She may relapse; but such an holiday in such a complaint is not to be forgotten." In our own practice, we have had more than one occasion to lament the *non-permanence of the relief*, from the Veratria treatment in severe Neuralgia. Still, it is a mighty object to procure temporary abatement of such distressing agony, as the poor sufferer has often to bear in this disease. We shall close these brief remarks by an extract from a communication by Dr. Young in the Quarterly Journal of the Calcutta Medical and Physical Society, for April 1837.

"Two drachms of Veratria were sent me by Mr. Snowdon of the Haymarket. I have used it in three cases of tic douloureux, and in two anomalous cases of nervous pain in the arm with marked success, fully equal to any thing stated by Dr. Turnbull in his work. It appears to me that any local pain in the nerves will be relieved, if not removed, by rubbing on the part, three or four times a day, a quarter of a drachm of an ointment composed of an ounce of lard and 15 grains of Veratria. The superintending surgeon of the Hyderabad forces has witnessed its extraordinary effects in a case of tic douloureux."

One hint to our readers—let them not forget the decided efficacy of many *old* remedies in even the worst cases of neurelgia. Perhaps on the whole none deserves our confidence better than *arsenic* administered internally.

SURGICAL APHORISM. BY PROFESSOR WALTHER.

1. Tumors of the tongue are very rarely of a truly scirrhous nature. In the majority of cases, they may be dispersed by the application of leeches, and by frictions with the chloride of gold or of soda, in conjunction with appropriate constitutional treatment.

2. In enlargements of the prostate gland one of the most efficacious remedies is friction with the iodine ointment on the gland, by means of the finger introduced into the rectum. We have very frequently succeeded in curing the disease by this remedy alone.

3. Silver sounds are greatly preferable to common bougies, or elastic gum catheters in the treatment of strictures of the urethra. I have cured with a silver sound in the course of one week a stricture, which had baffled for several months all attempts with flexible instruments. The employment of caustic in the treatment of strictures is very rarely necessary, and a cure effected in this way is by no means more permanent than after the ordinary method.

4. Topical applications are of little or no service in active ophthalmia. Merely shading the eye is quite sufficient: occasionally indeed cold fomentations are useful.—*Shmidt's Jahrbucher.*

From a memoir on Rheumatic Ophthalmia recently published by M. Sichel, we are induced to make a few extracts, as the author's descriptions are evidently drawn from an attentive examination of nature, and although leaning perhaps somewhat too much to the doctrines of the school of Beer in Germany, suggest a useful comment on some of the errors of the Broussaian physicians. Of late years, it has been too much the fashion in France to decry the labours of the German ophthalmists, and to assert that the numerous species of Ophthalmia, described by them, may all be properly considered as only different degrees of one simple inflammatory disease. The influence of constitutional derangements in inducing opthalmia has been too much neglected or denied; and hence the same line of treatment has been most perniciously recommended for the simple or catarrhal, for the scrofulous, the gouty, the rheumatic, and the syphilitic affections of the eye. Whatever be the form or type of the disease, these modern pathologists can discover, and will admit, nothing but mere vascular excitement or congestion; and if you talk to them of rheumatism, gout, or scrofula, they will ask you, " cet être que vous appelez rheumatisme, &c. l'avez vous vue ?" But surely with as much show of reason, we might ask of them whether they had ever seen affinity or electricity. If experience shews to us that different cases, say of Conjunctivitis, differ, the one from the other, not only in the *visible* amount or extent of morbid action, but also in the mode of their origin, and of their progress, in their duration, and in their curability, ought we not fairly to conclude that these cases are in truth distinct affections? And if, pushing our enquiries a little urther, we find that each of these cases coincides almost invariably with a certain state of the constitution, to which the names of rheumatic, gouty or scrofulous have been affixed, are we not bound to recognise the eye-affection as in some degree connected with, if not absolutely caused by, the general disorder? The justness of such a conclusion is surely confirmed, if the local complaint is remedied by the same means, which are known to be most efficacious against the disorder of the system. That such is the truth, will be admitted by all experienced ophthalmists, who have not blindly attached themselves to the Broussaian creed. We are ready to admit that many of the German oculists, with Beer at their head, have most unwisely, and most unnecessarily, multiplied their division of Ophthalmia; and, their perplexing minuteness of description and enumeration has perhaps contributed to the rise and growth of the opposite error, into which so many of the modern pathologists in France have fallen. It is quite as great a mistake in science to divide too minutely, as to generalise too vaguely. The Germans, armed, it would seem, with a sort of mental microscope, observe everything under a magnifying power; and, ingenious in distinguishing shades of difference, they multiply *genera* and *species* to excess, and end by having as many *types* as *individualities*. On the other hand the French have always been too fond of generalising, and, unwilling to exercise that 'religieuse patience' which is so necessary to the student of nature, they assemble together and classify things essentially very different from each other; the distinction of species and genera is forgotten; and they vainly attempt to simplify what is in truth multiform and complex,

M. Sichel, in his classification of the various sorts of Ophthalmia, has carefully avoided these two errors. He has neither multiplied their number unnecessarily, as Beer and his followers of the Vienna School have done; nor has he attempted to reduce them under one type, as the physiological oculists of France have of late years foolishly attempted. Guided by a calm discriminating judgment, and appealing constantly to the Book of Nature, he has been enabled, he thinks, to ascertain the causes of the different kinds of Ophthalmia, and he has satisfied himself that each kind has its seat in different structures of the eye, and is indicated by certain peculiar signs or symptoms, which the surgeon may by attention readily discover. The mucous membrane is, according to him, the part almost always affected in simple, and in catarrhal Ophthalmia; the fibrous structures in rheumatic Ophthalmia; and both of these structures usually suffer in the gouty or genuine arthritic Ophthalmia; This last species of ophthalmia is one of the most obstinate, which the oculist has to treat. Ophthalmia, when it occurs in strumous habits, is apt to be irregular in all its features. It has repeated periods of aggravation and of amendment; abating greatly for a few days at a time, and then returning with all its former severity. The disproportionate sensitiveness too of the eye to the apparent morbid changes is a characteristic feature of scrofulous ophthalmia. The tendency, which syphilitic ophthalmia has to affect the inner structures of the eye, is well known. In addition to these various constitutional causes of Ophthalmia, M. Sichel has repeatedly observed that abdominal congestions may be, if not the inducing, at least the predisposing cause of the disease. These various species of ophthalmia, to which we have now alluded, are occasionally complicated, and blended, as it were, the one with another in the same case. Thus the simple and catarrhal Ophthalmla may be grafted on the scrofulous; and this species again may co-exist with rheumatic or with gouty and syphilitic disease. Such cases require for their judicious treatment great tact and judgment on the part of the surgeon. Hence the importance of knowing thoroughly the constitutions of our patients, and the rise, progress, changes, and duration of their diseases, before we can form an accurate diagnosis or can adopt a rational mode of cure.

CASE OF XEROPHTHALMIA, WITH REMARKS ON THIS RARE DISEASE.

By M. VELPEAU.

French oculists have hitherto neglected to notice this affection of the eye—which consists in a morbid dryness of its surface—although Schmidt, Travers and Mackenzie have briefly described it.

The following is a well marked example, which occurred in the service of M. Velpeau at La Charité a few months ago.

A young man, of a robust although somewhat scrofulous constitution, had twelve moths before his admission into the hospital suffered from inflammation of the right eye. An abscess formed at the time under the upper eyelid, and gave discharge to a quantity of pus from its inner surface. When this discharge ceased, the patient began to experience dull pains at the external patt of the eye, also a gradual diminution of the lachrymal secretion and dimness of vision.

Various means were used, but without effect; and the surface of the cornea became quite dry, and the sight most indistinct.

When admitted into the hospital, it was observed that his right upper eyelid was somewhat inverted, and could not be elevated so much as the left one. The orifices of the meibomian glands and of the inferior lachrymal punctum were quite obliterated.

The caruncula lachrymalis was observed to be smaller than that of the other side, and imbedded in a triangular fold of the conjunctiva. This membrane presented a dull white colour and was "*entierement seche.*"

At both angles of the eye, it exhibited several vertical folds, which seemed to be more distinct and numerous in consequence of the efforts which the patient had made to separate the eyelids as much as possible.

When the eye-ball was drawn into the socket, the lower segment of the cornea seemed to be tied by one of these folds, as by the *membrana nictitans* in birds. The surface of the cornea itself was invested with a pulverulent pellicle which was dry and unequally opaque. Through it, as through a cloud, the iris and pupil might be perceived. In short, the eye looked like the dry, dull and withered eye of a corpse, which had been exposed for a day or two to the action of the air; only with this exception, that it was not at all sunk in the socket. The patient had found that his sight was always clearer, if he moistened the surface of the cornea with water. When a solution of nitrate of silver (five grains to an ounce) was dropped into the eye, the patient experienced scarcely any pain or uneasiness.

The left eye was quite sound and not suffered at all from any sympathetic influence with its fellow.

The treatment of Xerophthalmia or Xerosis has been hitherto utterly unsatisfactory. M. Villards has reported one case successfully treated by touching the conjunctiva around the edge of the cornea with the solid nitrate of silver; and M. Sanson has recommended the excision of the conjunctiva in the same place. M. Velpeau tried, in the present case, the solution of the lunar caustic and also the insufflation of calomel, but without having obtained any decided benefit.

Remarks. The rare disease of Xerophthalmia has been strangely confounded by some authors with some kind of opacity of the cornea. The two affections are altogether different from each other. In the former, the lamellar tissus of the cornea appears to be sound; and it is only the conjunctival epithelium investing it, which becomes dry, thickened, opaque, and, as it were, "epidermiie." It has a slatey hue, is pulverulent, and is of a bedimmed transparency which impairs, without abolishing, the visual functions. On the other hand, leucoma, albugo, &c. are diseases of the cornea itself; the opacity in them is much more decided, and, if situated over the axis of vision, it is attended with an almost total blindness.

With respect to the causes of Xerophthalmia, we have no satisfactory information. Schmidt, Travers, and others attribute the disease to an obliteration, more or less complete, of the excretory ducts of the lachrymal gland. But this assertion is quite gratuitous. These alleged ducts have never been shewn; no necroscopic examination of a "xerosed" eye has ever been made; and lastly M. Magendie has found that the extripation of the lachrymal gland in the lower animals is not followed by desiccation of the cornea—its transparency and humidity being probably maintained by the mucous secretion from the papillæ of the conjunctiva, from the Meibomian gland, and from the caruncula lachrymalis. May not the disease be owing to an affection of the ophthalmic branch of the trigeminus nerve—the nerve which Magendia believes to be "l'agent presque exclusivement conducteur de la sensibilité dans les organes des sens?" The diminution of vision and of the sensibility of the conjunctiva, the imperfect and embarrassed movements of the eyelids, and the cessation of the lachrymal secretion—all these phenomena may perhaps be explained on this hypothesis. Whether the formation of the abscess in the upper eyelid had any influence in inducing the Xerophthalmia in the preceding case, is not eaisily determined. If it had, some will allege that the lachrymal gland itself was implicated, and others perhaps may suppose that the frontal nerve suffered from its contiguity to the abscess, aud that the other branches of the ophthalmic became affected from sympathy.

On the whole we are rather inclined to attribute the origin of this rare disease to the effects of chronic catarrho-strumous conjunctivitis, than to any other morbid state with which we are acquainted.—*Gazette Medicale.*

ON A NEW MEANS OF DIAGNOSIS BETWEEN AMAUROSIS AND CATARACT.

By M. SANSON.

If a light be presented before an amaurotic eye—the pupil of which is either naturally or artificially dilated—three distinct images of the flame may be invariably observed. Of these three images two are upright, and one is *reversed:* they are situated, the one behind the other, in the following order. The anterior one, which is also most distinct, is one of the former or *upright* images. The posterior or deepest, which is the least distinct, is also one of the upright images. The intermediate image is the *reversed* one.

This last or reversed image is paler than the first, but brighter than the second, upright one; and it also differs in this circumstance, that, when the light is moved to either side or round the eye, it is separated from the other two images so as always to occupy the opposite side, while they (the upright ones) are seen to follow the position of the light, moving to the right or left, upwards or downwards, according as the candle is moved in any of these directions.

If the candle be held opposite to the axis of the eye, all the three images are situated one behind the other—the two posterior ones being, as a matter of course, masked and obscured by the anterior one. But if it be held to a—say the right—side, then the reversed image will be seen in the opposite or left angle of the eye, while the upright ones are seen at its right angle.

If it be moved around the eye, the upright image follows it together, while the reversed image, although describing the circle in the same direction, is always at the opposite end of the eye's diameter.

The unpractised observer may experience some difficulty in observing these phenomena.

The patient should be placed in a dark chamber; and let us suppose that the candle is held at the external angle of the eye: the anterior upright image, which is large and brilliant, will be observed at the outer and upper part of the pupil. If we now look very attentively into the bottom of the eye, the reversed image will be seen at about one line's breadth from the preceding upright image and at the meeting of the lower with the middle third of the diameter of the pupil—the right extremity of which (the diameter) is occupied with the anterior upright image.

If the surgeon does not detect these phenomena at first, he has only to move the light upwards and downwards, once or twice, fixing his look steadily on the pupil, and he cannot fail to observe that one image rises and the other descends.

As to the posterior or deep-seated upright image, it is always very difficult to perceive it, in consequence of its paleness, and of the intervention of the other upright one—of which it looks like the shadow.

Mr. Sanson assures the surgeon that, when once they have detected the very images, they will always readily perceive them afterwards, *provided there be no obscurity or opacity of the lens.*

Whenever a cataract exists, no matter what may be the stage or progress of the disease, none of the images, described above, are ever perceptible.

Some time ago (says M. Sanson), a patient was sent to me from a great distance to be relieved by operation from a cataract: *the three images were perceived; the patient was affected with glaucoma.*

A few years ago I was desired to visit a patient, who had been pronounced by several medical men in the metropolis to be affected with cataract; I perceived the three images and declared the case to be one of amaurosis.

You (his hearers) have lately seen a woman, whose sight was entirely lost. She had been sent to my care as an amaurotic patient There was no opacity visible in the field of the pupil; but two of the images were absent. I gave it as my opinion that she had two cataracts: and the accuracy of this diagnosis has been subsequently confirmed.

The preceding remarks were made by M. Sanson, one of the surgeons of the Hôtel Dieu in Paris, in his course of lectures on ophthalmology during last year. He had first noticed the phenomena, described above, about twelve months previously; and he had availed himself of his ample opportunities in the hospital during this period to test the accuracy of his opinion. He assures us that his experience has quite satisfied him of its truth.—*l'Experience; Journal de Medicine et Chirurgie.*

ON THE TREATMENT OF AMAUROSIS BY CAUTERIZATION OF THE CORNEA.

M. Lisfranc, the eminent surgeon of La Pitié Hoipital, has been in the habit for some years past of treating numerous cases of Amaurosis by the application of nitrate of silver to the cornea. In his opinion, it is especially useful in those cases, where it is desirable to excite the branches of the fifth pair of nerves, as well as the general vascular and nervous apparatus of the eyes. The objection, that this treatment is apt to induce various degress of ophthalmic inflammation, is easily avoided by applying the caustic very gently at first, so that the surface of the cornea becomes, as it were, accustomed to the irritation gradually. It is not necessary ever to apply the caustic on the middle of the cornea; all that is requisite is to touch several points in its circumferrence, so as to induce slight pain and vascular injection.

One speedy effect of this mode of treatment is to restore the contractility of the iris, and also to excite a general *erethism*, so to speak, of all the tissues of the eye. This is followed by a copious secretion of tears, and of the nasal mucus, and by smart pain in the forehead and cheeks; the capillary vessels are injected, the pupil becomes contracted, and the retina more sensitive to the impression of light. We might adduce numerous cases to shew the beneficial effects of this mode of treatment in amaurotic blindness.

The following one is taken from M. Lisfranc's Clinique at La Pitié.

An opticum, 38 years of age, plethoric and robust, was admitted on the 20th of October,

For the preceding five months, he had found his vision becoming less and less distinct; object appearing to him surrounded with a mist, and sometimes with luminous circles. He had been treated with blisters applied to the forehead; but, having derived no benefit, he determined to consult M. Lisfranc.

On his admission into the hospital his bodily health appeared to be quite good; but many of his actions indicated a disposition to mental alienation. Upon inquiring into the history of his former life, it was discovered that some years past his conduct had on many occasions been most irregular, if not absolutely insane.

The eye exhibited no signs of structural disturbance; but the pupil was largely dilated, and did not contract on exposure to light. Although able to distinguish light from darkness, he was quite incapable of guiding himself.

On the 25th, M. Lisfranc applied the nitrate of silver to the lower part of the cornea, along the extent of two lines or so. On the following day the conjunctivæ were found to be reddened, the eyes were brilliant; there was a copious secretion of tears; and the patient complained of severe head-ache: his pulse was frequent and full.

He was accordingly bled; and the eye was ordered to be bathed with an emollient fomentation. This treatment was continued for four days, when the inflammatory symptoms were found to be nearly gone. The power of distinguishing objects gradually returned. He remained in the hospital for six weeks; and by that time his vision had very greatly improved.—*Bulletin General de Therapeutique.*

Remarks.—The preceding case is very absurdly adduced as a proof of the utility of the *cauterization* treatment in amaurosis.

Judging from the report the cure, if such it was, was clearly attributable to the bleeding and other antiphlogistic measures, and not certainly to the application of the nitrate of silver to the cornea.

We do not mean to condemn this treatment—far from it; it is certainly very useful in many cases of amaurotic blindness. We only deprecate such injudicious advocacy of it, as the adducing of such cases as that now extracted from the Bulletin.

Unless judgment is exercised in the selection of cases, no mode of treatment in amaurosis, or in any other disease, can possibly be expected to be of extensive benefit.

The French journalists appear to give the entire credit of the use of nitrate of silver in amaurosis to M. Lisfranc.—This is certainly not quite fair: they surely must know how largely it has been used, and how ably it has been recommended, for many years past, by our countryman Mr. Guthrie.

EXTIRPATION OF THE UTERUS.

MM. Capuron and Lisfranc lately read to the Academy their report on the following case. Professor Laserre was consulted by a midle-aged woman for an inversion and prolapsus of the womb, which had been induced by the violent traction employed by a midwife at her last accouchment, two years before. From that period, she had suffered repeatedly from alarming uterine hæmorrage.

The tumor was of a pyriform shape, irregular and knobby on its surface, and the narrowest part or pedicle was girt with a hard ring (bourrelet) in the situation of the uterine orifice. Finding that it was quite impracticable to replace the uterus, M. Laserre determined to extirpate it, by means of a ligature passed round its pedicle, and tightened as firmly as the patient could bear. The acute pain induced by the ligature was calmed by opiates. 'Apres quelque temps' a second ligature was applied more tightly; but this operation caused such severe suffering, that it was found necessary to remove the string. The attempt was subsequently made several times; but the same alarming symptoms always coming on, the surgeon was obliged to resort to another practice. Drawing the tumor out, as far a he could, and finding that part only of the pedicle had been destroyed by the ligature, he passed another ligature tightly round it, and then removed the mass with one stroke of the knife. Peritonitis supervened; but a rigorous antiphlogistic practice speedily dissipated all the unpleasant symptoms. At the end of the fifth day 'l'etat de la malade etait satisfaisant.' On the following week, a painful swelling of the left thigh and leg came on; but this also gradually subsided, and in the course of five weeks from the date of the operation, the cure was complete. When the case was laid before the Academy last June, a year had elapsed since the period of cure. During that time, there had been no appearance of catamenia, and not even the 'prodromes' of the discharge had been experienced; whence M. Laserre concludes that this secretion must proceed altogether from the uterus and not from the vagina. The patient has been able, we are informed, 'se livrer au coit comme avant, et elle y approuve la meme jouissance et les memes sensations.'

M. Capuron in his report to the Academy on the preceding case, expressed his conviction that the uterus had been really extirpated; but adds, that it would have been more satisfactory if the details of the examination and of the characters of the prolapsed tumor had been more minutely and explicitly given. With respect to the absence of the catamenia, M. Laserre has been rather precipitate in his conclusion that they will never return in future; and he appears not to be aware that in several of the recorded cases of extirpated uterus, the menstrual discharge has been renewed, after having been absent for several years.

M. Nacquart directed the attention of the members to a coloured engraving, intended to represent the oozing of the menstrual discharge from the mucous surface of the vagina, in a thesis published by Osiander.—*Archives Generales.*

RADICAL CURE OF PROLAPSUS UTERI.

M. Velpeau recently performed the following operation in an old case of prolapsus of the womb, complicated with a cystocele.

Pinching together the mucous coat of the vagina, he cut away three slips of it, one from the anterior part, and the other two from the sides of the canal. Each of the slips was nearly an inch wide, and two inches and a half long. M. Velpeau had previously inserted the ligatures, so that there was no difficulty experienced in bringing the edges of the wound together.

No accident followed the operation, and cicatrisation took place by the first intention. Two months had elapsed, at the date of the communication to the Academy; and there was therefore every reason to believe that the relief would be permanent.

M. Berard, surgeon of the Hospital St. Antone, stated that he had performed the same operation in three cases of prolapsus uteri, and in two of them a complete cure was obtained.

TREATMENT OF BURNS, BY M. VELPEAU, WITH DIACHYLON PLASTER.

The ever active surgeon of the La Charité recommends the employment of strips of diachylon plaister to burned surfaces, in preferences to the ordinary applications, such as cold water, solution of the chlorides, Carron oil, &c. The advantages which it posseses over these means, according to M. V., is its being well adapted for all the various stages or degrees of the injury—from the simple irritation of the skin, caused by scalding, to the complete destruction and mortification of it and the subjacent cellular tissue. He recommends that the strips of the plaister be renewed every two or three days, and assures us that burns 'du premier degré guerissent immediatement;' those of the second degree in four or six days; those of the third degree in from eight to fifteen days; and those of the fourth degree in from fifteen to thirty days.

When the injury is attended with a destruction of the parts, and is therefore to be cured by ulceration aud granulation, the process of cicatrisation goes on under the plaister in several points at the same time, and not merely 'de proche en proche,' or from the circumference to the centre; as is ordinarily the case under the common dressings.

Injections of Iodine in Hydrocele.

M. Velpeau remarks that perhaps there is no surgical disease, in which less change of description or of treatment has been made use of for the last half-century than Hydrocele. Authors, for many a year now, have satisfied themselves with merely repeating in different words the statements of their predecessors. With respect to the treatment of hydrocele in France, the mode by puncturing and injecting the sac is almost universally adopted. But independently of the occasional failure of this method, it is liable to not a few inconveniences. Let us briefly examine the merits of the other methods, by which hydrocele has been treated.

Acupuncture.—This simple operation will sometimes suffice to effect a permanent cure. M. Velpeau alludes to a case, where the disease, of three years standing, was effectually and speedily dissipated by the accidental insertion of a long needle into the scrotum.

Dr. Monro mentions a case in his practice, where he cured, in the space of six days, a hydrocele by introducing a long needle into the sac, and leaving it there to act as a seton.

The numerous experiments which I (Velpeau) have performed on arteries and veins, with acupuncturation has quite satisfied me of the admirably curative effects of this remedy in causing inflammation and obliteration of serous cavities. In 1836 I tried this method in two cases of hydrocele; but in both it failed in success. In two other cases, I treated the swelling with leaving in the sac a small seton for two or three days. Upon removing the threads, suppuration ensued, and a cure was ultimately effected; although more slowly than after the method by the port-wine injection. The following case, interesting in several points of view, affords a proof of this remark.

A man, 27 years of age, of a healthy constitution, was admitted into the Charité Hospital, in consequence of a double hydrocele, which had existed for several years. M. Valpeau proposed to try the radical cure with the vinous injection on the left sac, and the palliative method on the right one. While the injection was going on, the patient struggled and pushed the canula away from him. This was no doubt the cause of a very little of the wine having escaped into the cellular substance of the scrotum. For several days, however, there was no tumefaction or pain. About the 4th or 5th day however after the operation, the patient began to complain of shooting pains through the left testicle, which had now become somewhat swollen and tender. Some of the inguinal glands also exhibited a tendency to enlargment. The swelling of the scrotum gradually increased, and an erysipelatous redness was diffused over the surrounding integuments, which exhibited a tense shining aspect.

The puncture, which had never healed, enlarged, and displayed at its base a semi-fluid yellow coloured substance. The parts immediately surrounding the puncture were rather soft and crepitating on pressure.

On the 10th day after the operation, M. Velpeau made an incision, an inch and a half long, upon the tumor, and gave discharge to some yellowish pus, mixed with bubbles of air. At the bottom of the incision there was observed a dark, almost black, eschar, which was pulled away with the forceps. For several days, the suppuration was very scanty, and the wound exhibited an unhealthy appearance.—Towards the end of the 4th week, the patient left the hospital to return to his work. At this period, the left sac was quite empty, but a re-accumulation has taken place in the right one.

He had not however been away more than 10 days, when he returned for admission into the hospital. The incision was still open; and now it was discovered that fluid had collected in the left, as well as in the right, tunica-vaginalis. A few days after this date, M. Velpeau passed two small setons through both hydroceles. On the second evening, the patient began to suffer from colicy pians, hiccup and vomitting, and to become generally feverish and uneasy.

On the following day the constitutional disturbance continued; and the scrotum, especially on the left side, was now extremely painful. The spermatic cords also were hard and tender to the touch. Both setons accordingly were withdrawn, and the patient was bled from the arm.

For the next fortnight, the patient was in a very unpleasant state, and the local symptoms continued to be very severe. There was still a considerable quantity of fluid in both sacs. At the end of another week, the poor fellow again left the hospital; but it seems that he found his condition at home so uncomfortable, that he was glad to be re-admitted in the course of a few days. The report states that, at this time, he suffered much pain in the right groin; that the right cord was hard, swollen, and very tender on pressure, and that all the right side of the scrotum was as hard and unyielding to the touch as a piece of wood. To add to his sufferings, his gums were tender from the mercural frictions, which had been employed.

He was ordered an alum gargle; to have 25 leeches to the right groin, poultices and saturnine wash to the scrotum.

For the following week, he was put upon the use of large doses of the tartrate of antimony, and what with being vomited, purged, and otherwise physicked, the "bien infortuné" was glad to be discharged at the month's end! His state at this time is thus narrated in the report:—"Il s'est fait un notable degorgement dans la tumeur; il n'y a point de rougeur, mais il y a toujours de l'induration. L'hydrocele droite, qui n'a pas été gueric en entier, a diminueé; la gauche est completement fermée."

In conclusion, adds M. Velpeau, I am of opinion that acupuncturation, whether with or without the use of the seton, is a process to be definitively rejected from treatment of the hydrocele.*

The following are a few cases, in which M. Velpeau has used an iodine injection in the cure of hydrocele.†

A man, 61 years of age, fell down and bruised his scrotum against the edge of a saddle, which was lying on the ground. A week afterwards, the swelling of the scrotum presented all the characters of a hydrocele. M. Velpeau punctured it with a trocar, and discharged half a wine-glassful of yellow-coloured serum. The fluid re-accumulated in the course of a few weeks, and it was again let out by puncture, and then a weak solution of lodine was immediately afterwards injected into the sac. Judging from the report, it appears that very little inflammation and swelling followed. The cure nevertheless was complete.

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* Within the last twelve months, several of the contributors to the Medical Gazette have published cases, in which simple acupuncturation sufficed to cure hydrocele. The plan may answer in young patients, but not generally in the aged.—*Rev.*

† The injection was usually composed of one drachm of tincture of iodine to an ounce of water.—(Query. Is the French tincture of iodine as strong, as what is used in this country?)

In the *second case*, the hydrocele was very recent and inconsiderable in size. It seemed to be the result of a hernia humoralis, which had been brought on by the retrocession of a gonorrhœal discharge. The fluid was simply drawn off by puncture at first; but, on the second operation, M. Velpeau injected a weak solution of iodine, immediately after discharging the fluid. The cure was very speedy, and remained permanent.

M. Velpeau has used the iodine injection in more than *twenty cases*, and in all with perfect success. In two of these successful cases, the vinous injection had previously failed; and in the other two there was encysted hydrocele of the cord. We shall give some short particulars of two or three of his cases.

The first we shall mention is that of a youth, nineteen years of age, who had been affected with hydrocele for a few months. A short time before he applied to M. Velpeau, a surgeon had discharged the fluid and had injected some diluted port wine. But this operatien seems to have failed, and M. Velpeau determined to try the iodine solution. About a wine-glassful of citrine-coloured serosity was withdrawn, and then an ounce and a half of the solution (containing two drachms of the tincture) were injected.

After remaining in the sac for some time, one half of it was allowed to flow out, the other half remaining behind.

Immediately after the operation, the patient walked off to his home. (We must confess our surprise that any patient was able to do this. The injection of hydrocele with a stimulating fluid is usually a very painful operation, and most patients are glad to get to bed.—*Rev.*) Six days afterwards he came to M. Velpeau's consultation. He had not kept his bed, nor made any change in his diet. In another eight days he was pronounced cured.

A medical student, 22 years of age, had been affected with hydrocele for five years, when he applied to M. Velpeau.

The swelling was as large as the head of a six-month's fœtus. Eight ounces of serosity were withdrawn by puncture, and immediately afterwards mixture of six drachms of tincture of iodine with four ounces of water was injected into the sac. The whole of this quantity was not injected at once; about two ounces were first used, and when this quantity was permitted to escape, the rest was introduced. The patient experienced no pain either in the scrotum, or in the back! On the following day the scrotum became swollen, tender and painful. The progress of the case was quite satisfactory, and the cure was pronounced at the end of the second week.

In another case, in which two drachms of the tincture mixed with two ounces of water were injected, the patient experienced so little inconvenience that he rose to dinner a few hours after the operation, and drove out that evening! His sleep and appetite remained as good as ever. A slight degree of swelling and pain succeeded, but these symptoms speedily gave way, without requiring any confinement on the part of the patient. The cure was complete by the twelfth day.

A similar mode of treatment has been followed by M. Velpeau in numerous other cases with perfect success. From two to six drachms of the tincture mixed with water were the usual quantity injected.

Part of the injection was sometimes allowed to remain in the sac; and so little inconvenience did this produce, that the patients walked home after the operation, and did not require to confine themselves to bed at all. It is to be remarked that, in not a few of the cases, the collection of fluid in the vaginal sac was very small: as we find it mentioned in the reports, that not more than a wine-glassful was drawn off by the canula.

M. Velpeau is of opinion that the iodine injection is preferable to the port-wine one, for several reasons. It has been most unequivocally proved, by the results of several of the cases alluded to above, that it is a fluid capable of being absorbed.

From this we may reasonably infer that its infiltration into the cellular substance will not be attended with so much serious mischief, as when the vinous mixture becomes extravasated. It causes also decidedly less pain than the wine; and indeed in most cases the pain is so inconsiderable, that the patient is not obliged to go to or to keep his bed. It has succeeded, when the vinous injection has failed.

From the results of his experiments, M. Velpeau is led to anticipate that the iodine injection will eventually be substituted for the port-wine one. He admits that as yet he has not quite satisfied himself, what is exactly the best proportion of the tincture to be used; whether any portion of the fluid should be allowed to remain in the sac; whether confinement to bed after the operation expedites the cure, &c. These are points to be determined by future researches.

In one case, in which the iodine mixture was used, the patient died about six weeks after the operation, in consequence of having had one of his limbs amputated. On examining the scrotum, it was found that the tunica vaginalis was about two lines thick, and adhered very intimately to the testicle, so that any relapse of the effusion was impossible.—*Archives Generals*

TREATMENT OF STRICTURES OF THE URETHRA BY BOUGIES COATED WITH CALCINED ALUM.

M. Jobert, one of the surgeons of the Hôpital St. Louis in Paris, presented lately to the Institute a memoir on this subject. We shall extract two or three of the cases reported, and leave his reasonings alone. A fact is worth a shipload of ideas. The manner, in which he prepares his bougies, is this. He smears the one about to be used with oil, and then rolls it in calcined alum finely pulverized. Sometimes he has made use of a soft ointment, with which the alum has been previously well blended.

A middle-aged man caught a severe gonorrhœa in 1828. It was followed by a complete obstruction of the urethra, which had given way at one part, and permitted an extravasation of urine into the cellular tissue of the perineum, scrotum, &c. He recovered from the painful effects of this accident, but the difficulty of passing urine still remained. On the 19th of April, 1835, he was admitted into the Hôpital St. Louis: two strictures were discovered. Several attempts to dilate the urethra were made, but in vain; and M. Jobert, therefore, tried to pass one well smeared witht he oil and alum. Considerable pain was produced, and several drops of blood flowed out; but in the evening the patient confessed that he had passed his urine with greater ease than he had done for seven years before. Next evening another bougie, prepared in the same manner, was passed, and allowed to remain in the canal for some hours. The report ceases very abruptly here!

The *second case* was of a longer duration and of greater difficulty. The patient had suffered from repeated gonorrhœa, and attacks of ischuria. When he entered the hospital, the smallest-sized bougie could not be passed more than four inches into the urethra. After being well smeared with the oil and powdered alum, it was re-passed and secured in its place. On each succeeding day a bougie of larger size, and similarly medicated, was passed along and kept in the canal for several hours. Considerable smarting was caused, and there was an abundant flow of mucus from the urethra. (This mode of treatment was continued for a week or so, and we are told, that in that time the disease was cured. But such vague statements will not satisfy British surgeons, however worthy to be submitted to the French Institute.—*Rev.*)

The *last* reported *case* deserved more particular notice. A man 37 years of age, had contracted gonorrhœa in 1821: it was very obstinate, but after four or five months' duration it gradually ceased. In 1830 he was again diseased; the dysuria was very severe, and, after the discharge was stopped, the passage was found to have become strictured. The use of bougies was repeatedly tried, but always with only temporary relief; and so troublesome was the case, that he had been advised by one of the surgeons in Paris to submit to the use of caustic bougies. He went into the Hôspital St. Louis in Feb. 1836. M. Jobert attemped to introduce a small bougie into the bladder, but it could not be passed beyond the bulb; and, as the discharge of the urine was always in drops, and never in an uninterrupted flow, it was suspected that the constriction of the urethra was very great, During the next fortnight various attempts were made to overcome the stricture; but all proved ineffectual. M. Jobert then introduced a bougie oiled and "saupoudrée" with calcined alum, and pressed it with considerable force against the obstruction. This operation was repeated daily for the next six days, and it was then found practicable to pass the bougie fairly into the bladder. —*La Lancette Francaise.*

Spontaneous Cure of an Aneurism of the Iliac Artery.

A sailor, 34 years of age, after lifting a heavy weight, found a small swelling in his right groin, which was accompanied with slight pain and stiffness of the limb on attempting to move it. The surgeon, to whom he first shewed it, had quite mistaken its real nature: for he had prescribed mecurial frictions, leeches, &c. He was left at the hospital in Smyrna, in consequence of his inability to perform the duties on board his ship; but there too the surgeon seems not to have been aware of his disease, although the tumor by this time had become considerably larger, and pulsated strongly: the skin over it too was discoloured, and the whole limb stiff and somewhat œdematous. Fortunately the surgeon of the French frigate Galatea happened to see the case, and at once resolved to carry the poor fellow back to France.

The following was the state of the swelling at this period. It was situated a little below the fold of the groin, extending down rather more on the front of the thigh than upwards on the abdomen; its base was diffused, but towards its summit it was more circumscribed. Pressure caused but little pain, and there was no greater heat in the part than elsewhere.

With attention, a distinct pulsation, isochronous with the action of the heart, might be felt. Compression above the tumor produced but little change upon it; but compression below it at once caused it to become larger and more prominent. The limb was œdematous and incapable of movement.

He was two months on board the frigate; and during this time the state of the swelling, and of the limb generally, improved considerably, in consequence of the depletory treatment employed, and the rest, which was diligently attended to.

When transferred to the hospital at Toulon, a minute examination of the limb was made. It was found to be nearly twice as large, at the upper part of the thigh, as the opposite one. The base of the tumor extended from the superior anterior spine of the os ilii forwards to the linea alba, and downwards to the upper third of the thigh, measuring in circumference twenty-two inches in all. The whole surface was firm and unyielding, except at its summit, where it was slightly softer and more compressible. The very central point gave to the finger a sense of fluctuation; and there the skin was purplish, and appeared to be so thin as if it threatened to burst. The pulsaion, which was indistinct to the hand, could be more readily perceived, when the ear was applied to the swelling. The ligament of Poupart raised up, and divided the swelling into an upper and a lower portion. The whole limb was excessively œdematous, and quite incapable of voluntary motion.

Such was the condition of this large aneurism six months after its commencement. It was the unanimous opinion of all the surgeons that not only was the crural and also external iliac portion of the artery diseased, but the common iliac was involved at the same time. This opinion was founded on the circumstance of a firm unyielding cord being traced from the upper part of the swelling towards the umbilicus. (L'abdomen exploré avec attention donne, le long le trajet de l'iliaque externe, la sensation d'un cordon dur, volumineux, se prolongeant jusqu' au dela du promontoire du sacrum vers l'ombilic, où il semble se terminer.)

The firm unyielding character of the swelling, and the indistinctness of the pulsatory movements, suggested the idea that it was partly filled with coagula. The œdema, coldness, and numbness of the limb, were no doubt attributable to the compression of the crural vein and nerves.

The question to be now determined was, whether an operation should be attempted, (and if any operation, it must have been that of tying the aorta)—or whether the case should be left to nature, and means be used to promote the coagulation of the blood in the sac. The latter plan was most fortunately adopted; and it was resolved to give a fair trial to the treatment of Valsalva. It was commenced on the 18th of Febuary.

The patient was put on a light farinaceous diet, and a bladder of ice was retained constantly on the tumor.

It is quite unnecessary to detail the particulars of each report. Suffice it to say that the size of the swelling began very sensibly to diminish: the œdema of the limb and the numbness also became less and less.

The treatment appears to have been steadily persevered in till the beginning of November—eight months—at which time the use of compression, by means of a rolled bandage applied along the whole extent of the limb, was commenced.

By the beginning of the new year, 1835, the limb had nearly recovered its healthy dimensions, and a considerable degree of pliancy and power of movement. No pulse, however, could be discovered either in the popiteal or in any of the plantar arteries. Soon afterwards the patient tried to move about on crutches; but, the attempt bringing on a swelling in the limb and pain in the groin, it was immediately discontinued.

It would seem that the patient remained in the hospital for other twelve months, and that the application of ice to the tumor was continued for most of that time.

A feeble pulsation began to be detected in the lower third of the femoral and also in the tibial arteries.

The patient was at length discharged perfectly and most satisfactorily cured. —*Gazette Medicale de paris.*

Perforation of the Vertebral Column by an Aneurism of the Aorta, not suspected during life.—Symptoms of general Tetanus.

A porter, 38 years of age, and of an athletic constitution, was admitted into the hospital *Santa Maria della Scala* at Sienna, in consequence of a suspected affection of the spinal cord. For eight months he had been subject to spasms of the limbs—the spasms occasionally alternating with a paralytic weakness of these parts. During his residence in the hospital, he had repeated attacks of spasmodic contractions in the muscles of a part of the trunk, or of the extremitries; and those attacks were so severe as to exhibit all the varieties of tetanus, known by the names of *Opisthotonos*, *Emprosthotonos*, and *Pleurosthotonos*. His pulse however, was never irregular or febrile; and his mental faculties were all the while quite unaffected. His appetite was voracious, almost insatiable; and occasionally he suffered from insupportable burning pains in the bowels. He died suddenly during a tetanic attack.

His disease was suspected to consist in a chronic inflammation of the spinal marrow. On dissection, an aneurismal tumor, of the size of a hen's egg, was found upon the posterior surface of the arch of the aorta. The bodies of the third and fourth dorsal vertebræ had been quite absorbed, so that the swelling lay in the spinal canal. The cord and its membranes did not however exhibit any traces of morbid change.—*Fragmens d'un Voyage Medicale en Italie, dans le Bull. Med. Belge.*

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS.

SOME OBSERVATIONS ON ABDOMINAL PULSATION. BY JAMES JOHNSON, M. D.

The attention of the profession has been recently called to this subject by two papers in the July and January numbers of the Dublin Journal, by Mr. Fawssett. The second paper is entitled a "REPLY TO THE MEDICO-CHIRURGICAL REVIEW," occasioned by some notice of Mr. Fawsset's first article, inserted at page 580 of the October number of the Med. Chir. Review. The tone which Mr. F. has assumed, and the asperity of his expressions are very unworthy of a sober and sincere inquirer after truth. I am also a little surpriszed that a journal which has hitherto been on the most friendly terms with this review, should have admitted some passages so outrageously disproportionate to the exceedingly slight provocation which Mr. Fawssett received from the reviewer in this periodical. But this by the way.

I have not yet seen Mr. F's first paper, the Dublin Journal being mislaid, but from a perusal of the second paper, and the extracts from the first, I can form a very good idea, both of his theory and practice. From an attention of more than thirty years to abnormal abdominal pulsation, I am free to confess that the doctrine which I have adopted on this subject does not differ materially from that of Mr. Fawssett. And the same may be said respecting the practice. I think, however, that Mr. F. has taken too limited a view of the phenomenon in question. Are abnormal pulsations confined to the epigastrium—or, in more correct terms, to the aorta? Not at all. We obsere them often in every tangible, or visible artery of the body. Apply the finger to the carotids in apoplexy, or cerebral congestion, and they will be felt—nay often seen, pulsating like metallic tubes. Observe the jugular veins in attacks of asthma, or in hepatization of the lungs, and *they* will be seen to pulsate. Who has not witnessed the blood spout from a brachial vein, when opened, in jets, corresponding with the abnormal pulsations of the contiguous artery? The arteries leading to a whitlow, will be felt and seen to vibrate with abnormal force and size—and the same is not unfrequently observed in a limb where gout or acute rheumatism is seated. I might adduce many other examples; but these are sufficient. My observation and reflection have led me to conclude that epigastric, as well as other abnormal pulsations depend in a great majority of cases, on one of two cases—often of both at the same time—namely, on an excited state of the heart itself, producing inordinate distention of the great arteries—or, on obstruction to the free course of blood througe the capillaries of the vessels so pulsating. The two states very frequently co-exist. Epigastric pulsations so far from being rare, are extremely common. Hepatic congestion seldom exists to any extent without this phenomenon. My attention was drawn to this subject, more than 30 years ago in India, where a great proportion of men affected with hepatitis exhibited epigastric pulsation, especially when in the erect posture. This may fairly be accounted for by the turgid and congested state of the whole of the vessels in the portal circle, thus checking the discharge of blood from all the great branches of the aorta in the abdomen. The throbbings which are felt in all parts of the body suffering from congestion or inflammation, are of exactly the same nature as epigastric pulsations.

It may be objected that this phenomenon is often seen in nervous, hysterical, and hypochondriacal people, without any proof of congestion or inflammation in the abdominal viscera. I have never seen such a case, *without abnormal action of the heart itself*—a most common occurrence in the above classes of people, and clearly accounting for the epigastric pulsation. How common is it to hear nervous patients complain that they are "*pulse all over?*" And here I may observe that Mr. Fawssett has neglected to examine, or at all events, to state, the condition of the heart itself, in the four cases detailed in the January number of the Dublin Journal. I would solicit his attention to this organ in all cases of epigastric pulsation—and for this reason, that there is a visible and tangible pulsation *in epigastrio*, not dependent on, or attended by abnormal action of the aorta, but owing to the violent action of the heart itself, probably through the medium of the diaphragm, in adherent pericardium, producing a pulsation of alarming appearance at the pit of the stomach. It is hardly necessary to say that when this is owing to hypertrophy, pericardiac adhesion, or other organic disease of the central organ of the circulation, it is far more dangerous than when the cause is congestion of the abdominal vessels or viscera.

Another, and by no means unusual cause of the phenomenon in question, is a good deal *mechanical* in its *modus agendi.* I mean, constipated and loaded bowels, offering actual impediments to the course of the circulation along the aorta and its branches, and thus, not only causing turgescence of these vessels, but exciting the heart itself to increased action, in order to overcome the resistence—such epigastric pulsation is, of course, more common in females than in males, for obvious reasons.

Another cause of epigastric pulsation, and not a rare one, is irritability of the gastric nerves, so that whenever food is taken into the stomach, the heart is excited to abnormal action, and frequently accompanied by the phenomenon under consideration. I have experienced this in my own person, and have observed it in many other dyspeptics. In respect to tenderness at the epigastrium, it is to be expected in all of these cases, for obvious reasons; but this symptom is present in a great many states and conditions where there is no pulsation *in epigastrio.* I cannot persuade myself that it forms any diagnostic mark in this case.

Now if the foregoing observations be well founded—and they are certainly the result of experience, we are forced to acknowledge that epigastric pulsation is owing to several different causes—namely, congestion of the abdominal viscera—excited states of the heart itself—loaded bowels—irritability of the gastric nerves—hysteria—and perhaps other causes not yet ascertained.* Hence no one specific mode of treatment can be laid down for the complaint. If we found our pathological opinions on the thereapeutical agency of medicines, we shall often build on a sandy foundation. There is scarcely a disease in Cullen's Nosology which has not been repeatedly cured (apparently) by the most opposite remedies. And, in fact, theories have been founded on the results of practice. Nothing, however, can be more fallacious. Fevers, at one time, were cured by bark and wine—and then the theory of debility, putrescency, &c. prevailed. Anon, they were cured by bleeding and purging, when, of course, inflammation was the cause of fever. The disorder of affection under consideration will often be cured by local or general bleeding, aperients, and mercurials; but we cannot safely infer from this success that the cause is invariably inflammatory or congestive. When it is caused or coupled with hepatic congestion, the symptoms of the latter are unequivocal, such as fulness of the hypochondria, sallow complexion, loaden tongue, turbid urine, depraved secretions, depressed spirits, &c. In such cases, leeching and blistering the epigastrium will assist the cure; but they are only auxiliaries. Mercurial purgatives are the sine qua non, and would, in general, remove the congestion, without any other medicine. The same treatment is necessary, when loaded bowels constitute the cause of epigastric pulsation. But if this methodus medendi were adopted in high states of gastric irritability, in nervous temperaments, and in constitutions tinctured with the hysterical diathesis, much harm would be done. Mr. Fawssett seems to ridicule the idea of hysteria in males; but I can assure him that though men have not *uteri*, they have sometimes the disease which has been hypothetically made to depend on disordered functions of that organ. It is true they will not evince fits of screaming, laughing, crying, or sobbing, like the sensitive female; but they will exhibit to the experienced eye the *hysterical diathesis*, in various grades and shades, that cannot be mistaken. In such constitutions, it is hardly necessary to say that bark and steel, and assafœtida and valerian, will be more effectual remedies than bleeding and purging, in epigastric pulsation. At the same time, even here, the secretions must be carefully attended to. In those deplorable cases where the epigastric pulsation and cardiac palpitation result from the destructive habit of masturbation, remedies have a double effect. The most efficient will be found in gradually increased and long-continued exercise. Great mischief is occasionally done by mistaking these inordinate pulsations and palpitations for hypertrophs of the heart. In truth they are sometimes very difficult to discriminate from organic affections. The history, the age, and several phenomena peculiar to masturbation, are more to be depended on than auscultation.

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* I have noticed it in some cases of masturbation; but in these there was palpitation of the heart, a usual consequence of this depraved habit.

STRICTURE OF ŒSOPHAGUS, COMMUNICATION WITH THE TRACHEA.

MR. LINDESAY has related this melancholy case in the Calcutta Transactions, vol. 8. Serjeant Casey, aged 55, generally temperate and healthy, came into hospital, in June 1833, complaining as if his chest had struck against a hard body, which was the case. From that time he felt wandering pain in the upper part of the right side of thorax, with gradually increasing dysphagia. No disease of heart, lungs, or ribs could be detected. The pain was soon removed by leeches, blisters, and attention to the general health; but the dysphagia remained unmitigated. The smallest tube of the stomach-pump could be passed into the stomach, giving a feeling of continued resistance for an inch or two opposite the top of the sternum. When the tube was withdrawn, its orifice was always filled with puriform mucus streaked with blood. He was somewhat benefited by the occasional passings of the tube. He left the hospital in fair general health; but returned in August of the same year with increased dysphagia, having lived for some time on thin bread and milk, very slowly swallowed. Two ineffectual attempts with the tube were made; a third attempt, with an elastic catheter, and with considerable force, succeeded in passing the stricture. Next day, a weak solution of lunar caustic was ingeniously applied to the stricture by means of a sponge fixed on the point of the stilette of the catheter, and made to protrude through the eye of the instrument at the part. No inconvenience followed and the operation was repeated next day, and for several days afterwards, but with no decided benefit. On the 2d of October, the plan recommended by Mr. Fletcher, of Gloucester, was tried—namely, the introduction of a piece of flaccid gut, which was then inflated and drawn back. It receded easily, but did no good. On the 26th of November the poor fellow applied again to Mr. L. He was then troubled with cough, and hawked up glairy mucus with blood. In a violent fit of coughing he now threw up a mass of coagulated blood, and afterwards could swallow nothing. On introducing a little fluid *to* the part strictured, it was coughed up from the trachea, proving the communication, between the two passages. He is now much emaciated. Nutritive enemata. 27th. Has not swallowed a drop since yesterday. Retained the enemata for several hours. To be repeated. Warm bath. 28th. Ratained the enemata pretty well. No deglutition. Tried the tube, and got it through with difficulty—poured down wine and water. Thinks the enemata do much good. The tube was a second time passed, and nutriment thrown in. He lingered till the 14th of December, when death put an end to his sufferings.

The upper portions of the lungs were much congested and infiltrated—the rest healthy, as was the heart. An opening into the trachea from the œsophagus, irregularly circular, the size of a shilling, was found, situated midway between the cricoid cartilage and bifurcation. The mucous membrane of the trachea, for some distance above and below the aperture, was vascular, and covered with purulent mucus. The œsophagus was not diseased, until just above the bifurcation of the trachea, where it was found thickened and ulcerated in its whole circumference, the ulcer occupying full four inches of the canal, and of very irregular surface, with almost cartilaginous projections.

We believe that most practitioners will acknowledge that œsophageal strictures seldom admit of much benefit from mechanical dilatation. We verily believe that more harm than good is done by bougies in such cases. We have seen more relief from constant counter-irritation to the external surface—nourishment by enemata—and the liquor potassæ, with iodine—than from any other means. We have not noticed any external application in the above case. People may be nourished much longer than is supposed by broths and beef-tea, with laudanum, *per rectum*.

OBSCURE DISEASE RESEMBLING THE "GRAND CLIMACTERIC." BY DR. JOHNSON.

A gentleman, when about 60 years of age, began to complain of a weight, not pain, in the umbilical region, and consulted several of the most eminent medical men in London—among others, Sir A. Cooper, and Sir B. Brodie. Neither these nor any others could detect any tumour, tenderness, or sign of structural affection. His appetite continued good—he was rather corpulent; and he was in the habit of eating meat suppers, and taking his wine and brandy and water as usual till within three months of his death. Five years ago he became affected with a most obstinate singultus which lasted nearly a fortnight, night and day. He was then attended by the late Mr. Walker, of Piccadilly, and Dr. Johnson saw him for the first time. The singultus gave way to large doses of musk, and Dr. J. examined Mr. S——— very carefully in search of the complaint which had annoyed him for some years, but was unable to detect the slightest deviation from the normal condition of parts. The feeling of weight and discomfort, however, continued, and Dr. J. did not attend Mr. S. again till the beginning of July, 1837, when the patient presented a remarkable alteration in his physiognomy — namely, that which characterizes the "climacteric disease." His appetite has fallen off—he had lost flesh, but was not at all emaciated—his tongue was white and his pulse was quicker than natural. The evacuations, however, were healthy—he had no pain on pressing every part of the abdomen—but the old complaint of "weight in the umbilical region" was his daily theme. Various means were tried to restore the appetite, but with no success. He grew feebler and feebler—had some nausea—and in August had two or three paroxysms resembling ague, which came on with rigor at a certain hour, and ended in a profuse perspiration. The old attack of hiccup returned, when the attacks of ague went off, and lasted nearly a week. Still he had no pain in any part of the body' but he declined daily in strength and flesh, while the nausea and disinclination for food increased. A few days before his death (in the latter end of September) Dr. Seymour examined him very carefully with Dr. Johnson, but could detect no organic disease. He gradually sank exhausted in the 67th year of his age.

The body was examined by Mr. H. J. Johnson, in presence of Dr. Robert Lee and Dr. Johnson, when the following appearances were presented.

On opening the abdomen, the stomach and intestines were generally distended with flatus, and in most parts of a dark slate colour. Their appearance was that of an advanced stage of putrefaction, although less than twenty-four hours had elapsed since his death.

The termination of the transverse arch of the colon, its descending arch and sigmoïd flexture, and some coils of small intestine which were contiguous to these portions of the great, were matted more or less together, and unnaturally fixed in the left lumbar and iliac fossæ. The adhesions were not of a very recent character.

The intestinal canal was laid open through a considerable part of its extent.

The mucous membrane of the stomach and duodenum was pale, soft, and in a half dissolved state. This appeared rather to result from a putrefactive than a morbid process.

The descending colon, and especially its sigmoïd flexture were so fragile that the slighest touch ruptured them. All the coats appeared to be thickened, and the mucous was remarkably pulpy and soft. There was reason to believe that there existed an aperture in the external and posterior wall of the colon at its sigmoïd flexture by which the interior of the bowel communicated with a large and sloughy abscess in the left iliac and lumbar fossæ

This abscess was of considerable extent, reaching from the kidney to the ligament of Poupart. The psoas muscle was almost totally destroyed, and sloughs of its fibres and of cellular membrane resembling macerated tow were found in some quantity in the cavity. The latter was circumscribed in front, by the colon and its adhesions to surrounding parts—and behind it had almost arrived at the skin of the left loin. Its contents were the sloughs to which allusion has been made, and a very imperfect sort of pus. The term sloughy abscess is scarcely calculated to convey an idea of the condition of the parts, but it would be difficult to find another more appropriate. The affection was evidently of a chronic character.

The gall-bladder contained a large number of calculi, which had all the features of merely inspissated bile.

No other disease of consequence was discoverable. The head was not examined.

Remarks.—The foregoing case offers a remarkable illustration of the amount of organic change that may exist in the human frame without corresponding symptoms. No reference was ever made by the patient to the region where the disorganizing process was going on—nor were there any indications of gall-stones at any period for many years before death. Indeed it is not probable that any of the biliary calculi ever got into the ductus communis at all, and therefore, no pain, sickness or jaundice were liable to occur. It is, however, exceedingly likely that the attacks of obstinate singultus were owing to the accumulation of gall stones—and perhaps the same observation might apply to the sense of weight, or, as the patient always characterized it, "load" in the umbilical region. This grievance was complained of for several years, and therefore may be supposed to have a cause of anterior date to the lumbar disease.

Hepatic Abscess bursting into the Colon and into the Lungs, with Recovery. By Dr. Colledge.—

[*From the Calcutta Quarterly Medical Journal.*]

Such fortunate results as the following are so rare that they deserve to be put upon record, as holding out the signal of hope when the darkness of despair is gathering around.

"*Case of Mr. J. C. S.*—He was seized on the 6th of August, in Canton, with inflammatory symptoms, for which he was leeched on the 10th or 12th, and bled from the arm on the 14th or 15th, and had this treatment afterwards followed up by a succession of leeching and blistering, and the administration of calomel every night, until the severity of the symptoms gave way. The disease was so far got under before his leaving Canton, that he was considered out of danger by his medical attendants, and was recommended by them to go to Macao for the benefit of a purer atmosphere, where he arrived on the 1st of September, labouring under a relapse of all his former symptoms, but of an aggravated and more strongly marked character. He complained of much acute tenderness over the whole region of the liver; so much so, as to be scarcely able to bear any degree of pressure of the hand upon any part of it. An attempt even to take a deep inspiration caused very severe pain in the right side. His respiration was short, quick, and attended with cough; tongue coated, mouth parched; quick and sharp pulse: anxiety of countenance, and great general prostration; symptoms clearly indicating that the inflammatory process had exceeded *the bounds* which admit of a termination of active disease by *resolution.*

The application of leeches to the seat of pain, which was had recourse to *repeatedly*, and carried as far each time as his reduced state would admit of, afforded only temporary reilef. His bowels were carefully attended to and kept open by means of emollient clysters, with occasional small doses of calomel, and rhubarb and castor-oil.—Counter-irritation by means of blisters and the tartar emetic ointment was kept up;—the nitro-muriatic bath was tried, and persevered in for some time; notwithstanding all which, no decided benefit was produced.

The above treatment was pursued until the 13th, when a sudden change for the better, in the character of the symptoms, took place. He felt himself all at once relieved, and was sensible of something having given way within him. On examining his motions next day, a very considerable quantity of purulent matter was discerned in them, and in those he passed for several days after, which sufficiently warranted the opinion that had been held, of an abscess having formed in the liver.—For ten or twelve days after this, he improved considerably; when another return of the symptoms took place. The same remedies were employed as before, together with anodyne fomentations, with the same want of success; he got daily worse; and serious apprehensions regarding his recovery were entertained,—when, on the 4th of October, he experienced another sudden change for the better. But this abscess being higher situated in the organ than the former one, burst into the *thorax* instead of the *colon*, and the matter was discharged by expectoration. Ever since he has continued to get better; and nothing further was required than a careful attention to the state of the bowels,—keeping them open by mild aperients and emollient clysters,—improving the strength generally by demulcent tonics and a strictly regulated diet,—and allaying nervous irritability and procuring sleep by means of night-draughts containing the acetate of morphia.

A few days ago he felt some uneasiness in the right side: the cupping-glasses were had recourse to, but as he could not endure them, leeches were applied in their stead, and with a very good effect. He is now recovering rapidly. (Signed)

T. B. Colledge.

Macao, 22*nd Nov.* 1836.

There is too much brevity in the above case. The matter expectorated should have been carefully examined; for if bile was not mixed with it, the probability, or at all events the possibility, was, that an abscess had formed in the lung itself contiguous to the liver, and was discharged by the mouth. We have seen three cases of hepatic abscess bursting into the lungs. One recovered after a long illness—the other two died.—*Editors.*

Phlebitis.

Disease of Veins. Dr. Monat, of Bengal, has published a paper on this subject in the eighth volume of the Calcutta Transactions, from which we shall extract the chief contents.

Case 1. Sergeant Smith, aged 33, in India 14 years, subject to frequent attacks of dysentery, was admitted into hospital on the 7th of March, 1834, for severe dysentery, complicated with hæmorrhoids, fever, and disorder of digestive organs. The urgent symptoms were removed in 13 days—treatment not mentioned—but he continued weak, with diarrhœa, febrile paroxysms, anorexia, dyspepsia, &c. with occasional swelling of the feet. On the 15th of September he was confined to bed, having suddenly experienced an acute pain in the right leg, from the hip to the ankle, with soreness in the line of the femoral vessels, which felt hard and painful on pressure, relieved by leeches and fomentations below the groin. On the 17th he complained of pain in the opposite leg, from the iliac region to the knee, accompanied by fever, cold perspirations, and debility. These symptoms were also removed by leeches and fomentations. On the 19th the vessels of the right leg felt hard, and painful when pressed upon. Those on the left were soft and painless. From this period he continued easy, though exceedingly weak, till the evening of the 24th September, when the pain returned with great violence in the left leg. He expired a few hours afterwards in great agony.

Dissection. No disease in the head or chest. Liver was slightly enlarged, and pale. Some old ulcers in the colon and rectum. The common iliac veins of the left side was filled with a firm coagulum, extending into the internal iliac as well as the external and crural veins, as far as the ham, where it gradually terminated. At the upper part the coagulum adhered to the internal surface of the vessels, which was slightly red. These veins were much distended, with a puffed hard appearance about the situation of the valves. The vessels of the right side were healthy. Both lower extremities were slightly œdematous.

We are ready to admit that the above case might come under the head of phlebitis; but we appeal to our obstetric brethren if it bears the slightest analogy to the common phlegmatia dolens of women *post partum*. The whole dispute, indeed, lies in a nutshell.—Phlegmatia dolens has been confounded with phlebitis—the former a disease hardly ever fatal—the latter very frequently so.

Case 2. J. Martin, a stout, muscular soldier, aged 30, and five years in India, admitted 9th August, 1834, with a severe attack of remittent fever—incessant cough—epigastric pain—giddiness—anorexia—debility, &c. "*The fever was removed by copious depletion, and a sore mouth from calomel.*"* The cough and mucous expectoration, however, continued, with relaxed bowels, which annoyed him till the 15th of September, when they left him, and in the beginning of November he was considered convalescent. On the 7th Nov. he was suddenly attacked with quotidian paroxysms of fever, preceded by rigors, acute headache, &c. These continued till the 16th, when the fever ceased, and he was once more convalescent. Next day he complained of great pain in the left shoulder—and on the 18th in the left side, in the region of the spleen, with tenderness on pressure, quick pulse, hot skin, and general restlessness. Leeches removed these symptoms, till the 22d, when the pain of side returned, increased by a full inspiration, but relieved by the loss of sixteen ounces of blood from the arm. On the 25th, complained again of pain in the left shoulder and in the calf of the left leg—pyrexia being present. Venesection to 12 ounces, with great relief. 27th. The pain in both localities still more acute—relieved by leeches and fomentations. On the 1st of December he suddenly experienced great pain in the left groin, and along the femoral vessels, extending to the ankle and foot, much increased by pressure, the vessels feeling like cords, and the leg and foot swelled and pitting on pressure. Leeches to the femoral vessels below the groin gave relief. *2d Dec.* Continued easy—leg shining and tense, but less swollen. Iliac and femoral vessels felt hard like cords, but not painful on pressure. In the evening great soreness was complained of in these parts—the limb tense and glossy, with fever. Fomentations, &c. continued. *3d.* Appeared better; but exacerbation in the evening, with irritable stomach, and pyrexia. Leeches to the groin afforded relief. 4th. Much the same. 5th. Delirious—leg and instep much swollen, vessels hard, stomach irritable, tongue dry, great thirst. Ten ounces of blood from the arm—blister to the epigastrium. A quarter of a grain of morphia at night. 6th. Better—no pain—leg less swollen—stomach still irritable. Morphia repeated. 7th. Seemed better. 8th. Slept ill—respiration quick and laborious—leg much swollen—pulse feeble—great anxiety—tongue crusted. He died in the afternoon.

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* How does this accord with that Star of the East, Dr. Dickson, of Cheltenham, who boasts of never wetting a lancet, or using any depletion whatever in fever or any other disease. Verily his brethren of India are most obstinate in resisting the torrents of new light which this Clarissimus Preceptor is shedding on the medical horizon!

Dissection. No disease in the head. In the thorax were found firm adhesions between the lungs and pleura costalis, with gelatinous exudation intervening—large quantity of water in the pleural cavity and pericardium.* *Abdomen.* Stomach healthy—mucous membrane pale—same of the intestines—a large abscess in the spleen—liver diseased, the right lobe resembling Spanish soap, or red sandstone—left lobe exhibiting the white dram-drinking character.—Other viscera sound. *Left* thigh, near the groin, 21½ inches in circumference—right thigh 17 inches. Much fluid in the cellular substance of the left or diseased limb—the saphena major and superficial veins much diseased, their cavities being filled with a firm and seemingly organized secretion—deep-seated veins in the same condition. The iliac and femoral veins of the same side were enormously enlarged, and similary diseased, this state extending into the vena cava, to an inch or two above the junction of the common iliacs. The coagulum, when examined, was firm, of a dark red colour, its surface covered with a pus-like secretion, which appearance characterized the whole venous system of that side, down to the foot. The internal tunics of the vessels were tinged red. The heart was rather large, and very flabby.

Dr. Monat considers this case as very analogous to the cases of *phlegmatic dolens* described by Dr. Davis and others: It resembles the cases of *phlebitis*, no doubt, of Drs. Davis, Lee, &c., but we still maintain that it is not the phlegmatia dolens known to accoucheurs, as by no means uncommon after parturition, and hardly ever productive of death. How is it that we never fail to have a *post mortem* after the phlegmatia dolens of Dr. Davis, but never can get such a thing after the disease as witnessed so frequently in the bed-chambers of the parturient females. This, in itself, is rather indicative of dissimilarity in the diseases. Dr. Monat seems to think that that curious and dangerous disease, the BERI BERI, is phlebitis. In the following sentiment we are inclined to agree with Dr. M.

"Perhaps future inquiries may indicate that there are two kinds of disease, separate and specific, *usually called* phlegmatia dolens."

TYMPANITIS ABDOMINALIS.

A German gentleman resident in London, had consulted Dr. Johnson occasionally for 14 years past, on account of a disease in the heart. The chief symptoms were dyspnœa on taking exercise—fluttering and palpitation in the region of the heart—cough, &c. This gentleman was frequently examined with the stethoscope. The case presented phenomena which are by no means rare, but which have not been described by any author in a clear manner. On listening to the actions of the heart, it would seem as if all the four chambers acted quickly in succession, instead of two and two at a time. But, in fact, the sounds were incapable of description in language, although they never could be forgotten by any one who had listened to them once. The impulsions were by no means strong, except now and then, when the apex of the heart thump'd against the parietes —and then fluttered. There was a kind of tumult heard in the region of the central organ.

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* We regret to find that our Indian brethren *appear* to neglect auscultation and percussion. Even in Mr. Twining's case, attended with so much obscurity, the application of the stethoscope seems never to have been dreamt of!!

In the present case swellings of the ankles were frequently observable, and the urinary secretion, as usual, defective. The patient was a free liver, and about 56 or more years of age when he died. About the middle of February 1838, Dr. Johnson was called to him, in Bedford-place, Russell-square, when he was found to be affected with symptoms of cholera, viz. violent vomiting and purging—pulse scarcely distinguishable —and general collapse. By means of opiates and cordials, these urgent symptoms were relieved, and then came on a different train of symptoms. There was pain and tenderness in the abdomen—furred tongue—thirst—quick and intermittent pulse, high-coloured urine. Leeches, fomentations, enemata, mild aperients, &c. mitigated these symptoms; but did not dissipate them. Although free and copious evacuations were daily procured, the abdomen enlarged gradually but steadily, and exhibited a true tympanitic state. The tympanitis amounted, in a few days, to a degree of distention which has been rarely seen in a thin male subject like the present. For two or three days before his death (25th February) he appeared like a female in the last month of pregnancy—the abdomen being tense and sonorous as a drum. As the alvine evacuations were freely kept up, it was evident that this was tympanitis abdominalis, and not intestinalis. Calomel and opium—mercurial frictions—and other means were used; but as the cardiac disease was still in existence, the patient sank and died.

The body was examined by Dr. Johnson and Mr. James (of Bedford-place) on Sunday the 25th of February, eight hours after death. The tympanitis was most extraordinary. The instant that the abdomen was punctured, an immense collection of air rushed forth, and the abdomen fell to nearly its natural size. There were marks of recent inflammation throughout the whole of the peritoneal cavity, evinced by recent adhesions between the convolutions of the intestines by means of soft coagulable lymph. The transverse arch of the colon, as in some cases of mania, made a bend down to the symphysis pubis. There was about half-a-pint of serum effused into the peritoneal cavity. This gentleman had been in the habit of drinking a bottle of wine, and several glasses of brandy daily; yet the liver presented no appearance of organic disease. There were evidences of inflammation in the mucous membrane of the stomach and bowels.

The lungs were sound. The heart was greatly hypertrophied, the parietes of the left ventricle being an inch in thickness. The mitral valve was so puckered and distorted that it was quite incapable of performing its office of preventing the regurgitation of blood into the auricle. In the left ventricle there was a polypus (as it used to be called) so dense in structure, and so adherent to the internal surface of the cavity, that it was impossible to separate it without great force, so as to tear it in pieces. It extended into the aorta. A similar appearance presented itself in the right ventricle.

There are two or three points of interest in this case. It would appear that the irritation and inflammation of the mucous membrane of the stomach and bowels were suddenly transferred or extended to the serous membrane of the abdomen—and that then the tympanitic symptoms commenced, and arrived at a most unusual extent. Is tympanitis abdominalis, caused by any thing else than peritoneal inflammation? The results of our own observations would lead us to answer in the negative.

The phenomena presented by the action and sounds of the heart, in this case and in analogous cases, are referable, in the narrator's opinion, to dilatation, whether active or passive, of the left ventricle, with valvular imperfection. In this case, the absence of regular impulse, corresponding with the degree of hypertrophy, may be fairly laid to the account of the imperfect state of the mitral valve, which permitting a regurgitation into the auricle, prevented the ventricle from exercising that strong action that would tell on the ribs in the shape of impulsion.

Dicksonianism at Home and Abroad.

From a very humorous address delivered by Dr. Hayden lately, in the Peter-street School of Medicine, Dublin, we extract the following remarks on our amiable, talented, experienced, and judicious friend, Dr. Dickson, of Cheltenham. This gentleman is labouring hard for FAME—per fas aut nefas—and seems to think that, so long as *notoriety* is gained, a main object is attained. The end will justify the means! In a late number of this Journal we laughed at rather than seriously criticised the absurd doctrines which Dr. Dickson essayed to spread through the ranks of the profession, and the furious fulminations which the Indo-Cheltenham, M.D. has ever since been launching forth against the Editor of this Journal, for the innocence strictures of the Reviewer, must have been very edifying to the public and no less gratifying to the author of the "FALLACIES OF PHYSIC." A bold Hibernian will now come in for his share of the Cheltenham anathemas, and Dr. Hayden may prepare to be buried in the bog of Allen, or drowned in his own dear Liffey.

"I think you will be out of all patience with *one* Dr. Dickson, of Imperial Square, Cheltenham, who lately in defence of HIS 'Principles of Practice of Physic,' states in the "Lancet"—a very unsuitable vehicle I should think for such STUFF—'It is now some years since I first repudiated the *Lancet* as a therapeutic agent; an instrument invented in an age of barbarism; the first and only resource of ignorant pretension in almost every case and country."

There gentlemen is an unlimited and sweeping exclusion of one of our most useful remedies! No wonder the public should be sceptical, when such trash is published by one yclept *a Doctor!*

It was justly observed, that true religion has been at all times, and in all ages, greatly injured by *pretenders*. The same remark holds good in reference to the practice of physic.

Berkely, the celebrated immaterialist (one who says there is no such thing as matter in the world) the bishop of tar-water notoriety, one day knocked loudly at Swift's hall-door—the witty dean ordered his servants not to open the door; thrust his head out of the window, and cried out to Berkely, 'why don't you come in out of the rain?—can't you come through the door; sure there's no such thing in nature as matter!'

God between this Cheltenham *Doctor* and all harm, (as we say in Ireland), but I should like to be at his elbow if it so happened that he was seized with an attack of Peritonitis, such as invaded the poor shoe-maker's wife; although from the sample we have of his brains, *phrenitis* might be a more probable event.

Suppose, gentlemen, the Doctor on his back, his legs, drawn up, and I, an obstinate Irish fellow, *alone* and *only* at hand. The agonised patient should faithfully promise to burn all the unsold copies of HIS Practice of Physic, and make a handsome and suitable public apology to the '*repudiated lancet*,' before the much maligned instrument should afford him the relief to be obtained from it and IT ONLY. Let us dismiss the Doctor with, *requiscat in pace.*

But Dr. Hayden is very much mistaken if he thinks Dr. Dickson will "remain in peace." The Cheltenham Doctor would soon die if he were not at war with his brethren—and the profession itself.

From the *West* let us turn our eyes to the *East*, and see how resplendent our Cheltenham luminary shines. It is well known that one of the charges which Dr. Dickson makes against Dr. Johnson, is the mischief which the work of the latter on Tropical Climates has done to Dr. D. and his patients in India.

It was the boast, some fifty years ago, of Mr. Curtis and a few others, that they "never *wetted a lancet* in the diseases of the East"—and Dr. Dickson has carried his antiphlebotomising and antidepletory to the highest pitch of absurdity, which any man in or out of Bedlam could possibly do. Let us see how his brethren of the East countenance this MONOMANIA ANTIPHLEBOTOMICA (if we may be allowed to coin an epithet for the Cheltenham nondescript) and his torrent of abuse againt the work of Dr. Johnson on the diseases of the East. In the second Number of the INDIA QUARTERLY JOURNAL of MEDICAL SCIENCE, published at Calcutta in April 1837, a long and able retrospect of the Anglo-Asiatic practice of men for the last half-century, is given, from which we extract the following passage, for the edification of the Cheltenham luminary.

"Dr. Johnson's work is, in many respects, highly valuable. If it were only for his manfully enforcing the antiphlogistic system, and his powerful advocacy of the necessity of bleeding and purging in acute tropical affections, he would be entitled to the respect and gratitude of all Indian practitioners."—*India Quarterly Journal, April*, 1837, *p*. 147.

We leave Dr. Dickson to ponder on this testimony from his Indian brethren, on a work that has stood the test of twenty-five years, and gone through five editions. When Dr. Dickson's Practice, or rather fallacies of physic, has undergone such an ordeal, and received, at the expiration of a quarter of a century, such a probat from distant strangers, it will be time for him to exult—but not till then.

CASE OF HIDROSIS, OR HIDROTIC FEVER. BY MR. J. C. W. LEVER. 8vo. pp. 24. Barker, London.

The case was that of a very nervous lady, 36 years of age, and pregnant of her first child. Any agitation or excitement produced, habitually, headache and diarrhœa. During the last three months of utero-gestation she suffered from sickness, and also from a dull pain in her left side, near the linea semilunaris, attended with diarrhœa She was very sleepless—pulse variable, but steadily above 100—cold perspirations. On Sunday, 7th May, she was delivered of a living child. Uterine hæmorrhage followed, owing to adherent placenta, which was carefully removed, and the hæmorrhage ceased. On the second day after confinement the pulse was 130—lochia abundant—diaphoresis—no urine passed. Catheter introduced, and 16 ounces drawn off. Third day (May 9th) nothing particular; but in the evening, there was increase of mental excitement — pulse 135 — earthy smell about the patient. Fourth day, better in all respects—pulse 110. Fifth day, at 4 in the morning, smart general rigors, attended with violent palpitation and dyspnœa, followed by profuse perspirations—dull pain in the left iliac region—lochia apparently mixed with a sanguineo-purulent matter—secretion of milk—countenance good—pulse 150—bowels not open—urine free. Eight leeches to the painful part—three grains of calomel and half a grain of opium—followed in two hours by castor oil—febrifuge mixture.

Sixth day. Pulse 98—diaphoresis—lochia of the same quality—the aperient had acted plentifully. In the evening, there was increase of nervous excitement—pulse 130—profuse sweats—urine copious and pale.

Seventh day. Better.

Eighth day, better also; but in the afternoon a profuse discharge of blood from the uterus, mixed with some coagula and with pain.

Ninth day. Rigors, accompanied by palpitation and dyspnœa, lasting 15 minutes, and followed by profuse perspiration of strong disagreeable odour. There were pain and tumidity above the pubes. Twenty ounces of urine drawn off by the catheter, pale—pulse 150—breathing hurried—tongue clean—bowels open—lochia profuse and sanguineo-purulent. A strong opiate ordered in infusion of roses. Another rigor in the afternoon, but slighter.

Tenth day. Restless night—in other

respects much the same—no rigors—pulse 160.

Eleventh day. Pulse 150—perspiration profuse — lochia still purulent. Tried the bisulphas quinæ, with mineral acids and tinct. hyoscyamus.

Thirteenth day. Pulse reduced to 96; but complains of pain in the head—perspirations less profuse, lochia scanty —urine free.

Fourteenth day. Sub-tympanitis — pulse 100—lochia scanty—tongue clean bowels open. The quinine continued. The bowels had a tendency towards diarrhœa during the next two days, scarcely checked by opiates.

Sixteenth day. Diarrhœa—head hot — stupor — delirium — imperfection of vision—slight subsultus—tympanitis—pulse 154 — breathing hurried. Dr. Blundell saw her at 2 p. m. and ordered several medicines, including mercurial ointment to the thighs, and cold lotion to the head. Dr. B. saw her next evening (17th day) when there did not appear to be much alteration in the symptoms. The tympanitis distressing —diarrhœa.

Eighteenth day. She sank and expired.

DISSECTION.—*Head.* Nothing abnormal. The same might be said of the lungs, except a few calcareous deposits in the upper lobes. *Heart* flabby, with two ounces of clear pale water in the pericardium. *Abdomen.* Intestines much distended with flatus—particularly about the cæcum—peritoneal coat of intestine not shiny, but dull—stomach not injected; but the mucous membrane easily separable from the other coats—liver flabby, pale, and soft to the touch—it was, in fact, what may be called a fatty liver—kidneys flabby, pale and very destitute of blood. The lining membrane of the small intestines was not inflamed or ulcerated; but the glands of Peyer were enlarged. *Uterus.* On its posterior surface was a tubercle, the size and shape of a broad-bean, tough and firm under the knife—structure of uterus pale and firm—lining membrane of a dark piony colour—on the right side, near the fundus, was an elevated spot, the size of half-a-crown, of a dark brown colour. "Within and around this elevation the openings of the uterine veins could be seen, and, on making pressure, there was seen issuing from some of them a decided purulent fluid, from others pus mixed with blood." There were some minute ulcerations in the lining membrane of the uterus. Around some of these ulcerations, the proper substance of the uterus appeared softened and easily lacerable by the probe. A careful examination of the venous trunks, which were laid open from the internal and external surface, exposed obstruction by coagula, or a purulent fluid. In the abdominal and pelvic vessels there was nothing unusual found.

This case is a very interesting one. Looking at the *pathology* we would set it down as a case of unequivocal uterine phlebitis, or hysteritis; and we are not sure that the profuse perspirations which accompanied the uterine disease should induce us to change the name which is stamped on the malady of *post-mortem* examination. In cases of phlebitis—in the similar cases of secondary inflammations after accidents and operations, profuse sweats, and symptoms with those of the present case are equally common and characteristic.

MISCELLANIES.

LEEDS PETITION TO PARLIAMENT.

The Members of the LEEDS MEDICAL SOCIETY, consisting of legally-authorized Practitioners, having some time ago had their attention directed to the unprecedented and increasing extent of Quackery, appointed a committee to inquire what means could be adopted for its suppression. On receiving the report of the committee, and at their suggestion, the Society have unanimously determined to Petition the Legislature for that protection against illegal competition to which an honourable Profession is entitled.

It is a fact that in the Borough of Leeds the number of Prescribing Druggists and other illegal practitioners *considerably exceeds* that of the regular Members of the Profession; and the same calculation is applicable to many other places. The uneducated Druggists are now in the full exercise and enjoyment of all those privileges which were intended, by the Act of 1815, to be secured to the Apothecaries; while the latter, after years of preparatory study and expense, have the mortification of seeing *their* harvest reaped by a set of illiterate pretenders.

The following Petition, it is presumed, will point out to the Legislature a sufficient remedy for the evils in question; and the Leeds Practitioners earnestly exhort their brethren throughout the kingdom to second their efforts, by *immediately* sending up to Parliament similar Petitions, signed by all the legally-authorized Practitioners resident in the district where the Petitions originate.

As this is a question touching neither sect nor party, it is hoped that all parties will unite in the endeavour to obtain justice, and that no time will be lost in urging upon the Legislature the necessity of removing this oppressive wrong.

GEORGE WILSON,
Leeds, Jan. 1, 1838. Sec. to the Com.

TO THE HONOURABLE THE COMMONS OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND IN PARLIAMENT ASSEMBLED,

This Petition of the Legally-Authorized Practitioners of Medicine, residing in the Borough of Leeds,

Humbly Sheweth,

That a very considerable number of Individuals are now practising the different branches of Medicine in England and Wales, without having undergone any preparatory education, or examination by any legally-constituted authority.

That, in consequence of their ignorant administration of remedies, very serious injury is done to the Public Health, and many cases have occurred in which their practices have been undoubted causes of death. Not a few such cases have been already before the public, as matters for legal investigation.

That the extent of employment which such parties are enabled to obtain among the uneducated classes (by advertising false cases, and various other unworthy means) injures materially the practice of regular Members of the Profession; and is more especially oppressive to the Younger Practitioners, who generally depend for their subsistence upon the very classes who are misled by the false statements of pretenders.

That your Petitioners are required by law to undergo an expensive *preliminary* education; and then to engage for several years in severe and unhealthy studies,—subsequently to all which, they are subjected to rigorous examinations by the constituted authorities. Yet the only protection afforded them is by the Apothecaries' Act; which, however, is totally inadequate to redress their grievances, on account of the difficulty of obtaining the required evidence of illegal practice the great length of the legal process and the heavy amount of costs attending prosecutions.

That it is therefore inexpedient and useless to waste further efforts towards the conviction of illegal Practitioners, under the very insufficient powers afforded by the Apothecaries' Act.

That your Petitioners, therefore, beg most respectfully to suggest, as the only means of remedying the above evils, and protecting the public from the dangers of ignorant and empirical practice, that a Clause be added to the Apothecaries' Act, empowering Magistrates to summon before them any party charged with illegally prescribing or practising any branch of Medicine in England or Wales, and in the event of such party failing to produce the License of the Apothecaries' Society of London, (or proof of having obtained such License) to inflict such a penalty as may seem adequate to prevent a repetition of the offence.

And your Petitioners, &c.

THE LATE MR TWINING, OF BENGAL.

THE death of this distinguished surgeon, caused a considerable sensation in Calcutta, and throughout India generally, on account of the high character he held amongst his brethren and the public at large. The disease of which he died was obscure, and it is not a little remarkable that he who had so diligently prosecuted pathology, should have expressly requested that his body should not be examined after death! This was a weakness which we should not have expected in such a man as Mr. Twining. It may be observed that for some time before his death, Mr. Twining thought he laboured under angina pectoris. On the 19th of August, 1835, his coachman ran the carriage against a gentleman's buggy, by which accident the gentleman was thrown out, and had his thigh broken. Mr. T. jumped out to help the sufferer, and felt something snap in his own chest. He became instantly sick and faint, followed by a sense of suffocation. The pulse was small, quick, and fluttering. He nearly expired on his way home. The sense of suffocation prevented him from sleeping that night. After a purgative next morning (August 11) he was more comfortable, and slept a little, from which he was awakened by a tickling cough. Some bloody expectoration was thrown up during this and the next day. He slept a little in the night of the 11th, and he took some calomel and blue pill every four hours—and applied sixteen leeches to the hypochondrium, which eased his breathing. He observed that some portion of one lung resembled red-currant jelly. He went out in his carriage on the 22nd and again on the 23rd to see a patient. In the evening of the 22nd he was delirious and very ill. Hitherto he had prescribed for himself. He now consulted Mr. Egerton, who found him with a pulse that could not be counted, but calm and collected. Four grains of calomel and six of pulv. Jacobi—blister to the scrobiculis cordis. He soon afterwards determined in his own mind that his disease was obscure intermittent, and took several doses of quinine. This was followed by considerable amelioration of the symptoms, and elevation of spirits. His pulse, however, continued at 216, with hurried respiration. He slept five hours that night. Next day (25th) he took a purgative, with some relief; but a decided change for the worse took place. He suffered frightfully from difficulty of breathing and he expired at four o'clock.

The prohibition of a post mortem examination left the real nature of the disease in some doubt, though we think there can be no doubt that an aneurism had burst and pressed upon the large bronchial tubes. The prohibition alluded to, is most extraordinary and with every disposition to adhere to the ancient but not very wise maxim—"de mortuis nil nisi bonum," we must say, that the medical man who examines the bodies of those who die in the wards of his hospital, and then binds his friends to refrain from ascertaining the nature of an obscure and fatal disease in his own body, is not merely *weak*, but we had almost said *dishonest*. He breaks one of the fundamental and most important commands of his Redeemer—"do unto others as you would they should do unto you." The deceased did an injury to the whole profession. What answer could a medical man expect from the friends of a departed relation, if a *post mortem* were requested? They might well quote the dying injunction of Mr. Twining! Let this be a warning to others!

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☞ *This is a very amusing and instructive periodical.*

2. Report of the Proceedings under a Brieve of Idiotcy—Peter Duncan *v.* David Yoolow, tried at a Cupar-Angus-in January 1837. With an Appendix, &c. By LUDOVIC COLQUHOUN, Esq. Advocate. Octavo, pp. 116. Clark, Edin. 1838.

3. The Quarterly Journal of the Calcutta Medical and Physical Society. Edited by Drs. GOODEVE & O'SHAUGHNESSEY. Nos. 1 and 2, January and April, 1837.

☞ *This Journal bids fair to advance the interests of medical science in the East, by diffusing knowledge more extensively and cheaply than could be done through the medium of British periodicals transmitted to India.*

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☞ *The arrangement is ingenious, and chiefly selected from the arrangements employed or suggested by others, as Murray, Granville, &c. but probably improved.*

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☞ *This is a work of immense research and erudition. It will prove a source of great interest amongst our medical brethren, and indeed most Europeans of education, in India.*

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APPENDIX.

MR. GUTHRIE'S CLINICAL LECTURES.

WESTMINSTER HOSPITAL.

On Compound and Gun-Shot Fractures of the Arm.

Delivered December 30, 1837.

The man I now place before you is one of the heroes of Irun, at which place he received a musket-ball, which broke the right arm nearly mid-way between the shoulder and the elbow. It does great credit to the medical officers engaged on that service, and particularly to our friend Alcock, (who was educated at this hospital,) and proves what a man can do who is attentive to his studies and his duties. The arm is a little bent outwards, which has arisen from that army not having been supplied with proper splints; and it is not sound, from there being still some dead bone to come away. I feel it readily with the probe for the space of three inches or more. You shall see me remove this.

It is done, gentlemen, more quickly than I can relate it. I made an incision, four inches long, in the line of the ulceration, down to the bone on the inner edge of the insertion of the deltoid, and downwards on the outer edge of the biceps. By this cut I gained but an incision,—a fact you must never forget, as it shews the difference between parts in their natural and diseased state. In order to expose the bone, the thickened, hardened parts, almost resembling cartilage, were separated from it with the knife and finger, which being done, I easily removed two pieces of dead bone, worm-eaten in appearance, indicating the action of the absorbents on them. There does not seem to be any more, and we must therefore hope he will soon get quite well, and save an arm, and have it equal to useful labor, which would probably have been cut off by many surgeons thirty years ago. Let us inquire into these cases more fully.

A compound fracture is, as you all know, a broken bone which protrudes, or has protruded, through the skin, causing thereby a rent in the integuments, which, when the broken bone is brought back to its proper place, may perhaps unite, if the cut edges are placed in apposition. If it should do so the compound fracture becomes a simple one, and the cure is effected by a very easy, natural process. If it should not unite, the wound remains open, and the process of cure is much more complicated. A gun-shot fracture must always be a compound fracture, because the shot-hole cannot unite or heal by the adhesive inflammatory process: but a compound fracture caused by a heavy cart-wheel going over the part must be a more dangerous injury than any musket-ball fracture. The treatment therefore in all serious cases, is pretty much the same.

In a gun-shot fracture, the bone or bones may be more or less broken, the splinters larger or smaller, of a greater or less extent. Let us now, however, confine ourselves to the upper arm, and suppose that the ball has done the least possible mischief; it has gone through, or remains, having merely broken the bone transversely. In the first place examine the wound at the moment, if you can, and in the gentlest manner. The weight of the fore-arm usually keeps the lower end of the bone tolerably well in its place, and you ascertain the evil by gently feeling the part all round. Your finger should then be passed into the shot-hole, and if it will not go in, the opening must be enlarged, so as to enable it to enter freely. The object is to ascertain the state of the fracture, and to remove the splinters, and the extent of the incision must depend on them. This is the true principal of what has been called dilatation in wounds; for to cut a man because he has been shot is absurd: he should only be cut for some good and specific reason. If, for instance, the ball has merely struck the bone, and has passed out, causing a transverse fracture only, there is no necessity for dilating such a wound at the moment, although it must be done at a later period; it is time enough to do it when necessary, and it is better done then; for if done at first, the cut would have closed up before any bone would be ready to come away. This is one of the differences between a compound fracture from a slight accident, and a gun-shot fracture. In the accidental fracture, the force being often applied to the ends of the bone, no injury is done to the broken part by direct collision. It is always done in the simplest gun-shot fracture: the ball grazes and injures the bone, depriving it of a part of its periosteum, and a scale or portion will be separated at that place; but this is a process requiring time, and it is to allow of the free passage of this exfoliated bone that an incision must be made when necessary. If the ball lodges in the soft parts after breaking the bone, an incision or incisions are required for its removal; and an incision must also be made if you should fear the lodgment of matter, a free vent for which is always of the greatest importance. Receive it as a general rule, that whatever may require to be done the first few days, had better be done on the first than on the second, for after inflammation has commenced, any handling or examination, however gently made, gives much greater pain. Suppose, if you please, the bone to be greatly splintered; an incision sufficiently large and deep to enable you to remove the splinters will be necessary, and they should all be removed if it can be conveniently done. Add to this a wound of the brachial artery, on which you must place two ligatures, one above the wound, and the other below it. You will now perhaps be able to put your fingers quite through the arm, and the wound will look very ugly; but you may yet add a shot through the fore arm, you may even break a bone of it, or knock off a thumb or a finger or two; nevertheless the arm must not come off; it is only sixty seconds or so between an arm on, and an arm off; but as a man is not a crab, and cannot reproduce a limb, he must run great risks to keep it.

The peculiar danger from a gun-shot fracture, and which is not so great in a common compound fracture, arises from inflammation taking place in the membrane lining the shaft and the cancellated structure of the bone. When this inflammation exceeds a certain point, it causes the death of the bone which it lines and nourishes, and gives rise to a corresponding, but peculiar and different action in the membrane or periosteum covering and nourishing the bone externally. This swells, thickens, and begins to deposite new bony matter, not only in its own structure, but external to it, and induces the neighbouring vessels to take on a similar action, to the extent often of an inch or more. This ossific deposition begins early. I have seen it by the 20th day, and it begins earlier, and by the end of the fourth week it is often very remarkable. When our own sick and wounded were in due order, after the battle of Toulouse, in the old convents of the town, I thought it right to make the acquaintance of the physicians and surgeons of the Civil Hospital. They received me and my principal friends with the greatest kindness, and invited us to witness several of their operations for different complaints. On my inviting them, in return, to see our surgeons amputate three thighs, which was all they had to shew, the gentlemen I requested to do them, came to me in the most mutinously complimentary manner, to beg I would operate myself, to which, as I found they were determined not to do it, and as their intentions were good, I was obliged to accede. Every leg was off in less than 80 seconds; but tying 10 or 12 arteries was a more troublesome matter. They were all in the fourth week after the injury; and each vessel nearer than an inch and a half to the bone was so surrounded by ossific matter, deposited by the action I have alluded to, that the ligatures on being drawn tight, sounded as if cutting a chalky substance, and did even in some instances cut through. The two preparations of the arm bone I now shew you, once belonged to two gallant soldiers of Waterloo. Mr. Morel cut off one, I amputated the other at York Hospital in 1816. They are each twice as thick and as clumsy as an ordinary bone, perforated in several places by holes, and containing in many parts pieces of the original bone. The new surrounding case of bone is hollow, its wall is in some places half an inch thick, of a deep brownish yellow color; the old original bone is white, thin, and as if worm-eaten. It is a case of necrosis, with its sequestra, you will say; but mark the difference. The five inches of bone I now shew you, I took out of a young man's thigh last year in this hospital; the new formed bone surrounding it being more than half an inch thick. After making a hole in it with the trephine, I was obliged to break it down with a mallet and chisel, used even with great force, before I could withdraw this dead piece. The dead bone or sequestrum is in these cases of natural necrosis in young persons. in one pice, even if the whole shaft is implicated, and may in general be readily drawn out when sawn through the middle by the trephine. The young man got well.

In a gun-shot fracture, as you see in these preparations, the old bone is in several pieces, and could only have been drawn out after much chiselling at several places; and the articulating surface of the humerus in the joint is diseased, I presume from the extension of inflammation. The danger you have to dread is the shutting up of these splinters of bone by the newly-formed ossific matter and the object you ought to have in view is the prevention of the extension, if not the establishment of this, which is to a certain extent a necessary and consolidating process. This is to be done by the suppression of the inflammation in the internal part of the shaft of the bone particularly, and of the arm generally. The splinters should be removed if they will admit of it; the arm should be placed at perfect rest if possible in the bent position, duly supported by proper splints, or otherwise as the case may require. Vascular action must be subdued, by the application of cold and by leeches, until cold seems to be disagreeable, when warmth is to be substituted. When suppuration is fully established, the remaining splinters may be very gently sought for and removed; but if this cannot be done, and time runs on, the firm thickening of the arm begins to indicate the deposition of new formed bony matter; and after a further lapse of time, a particular spot of inflammation at some part implies the formation of an abscess in the new bony deposit. It is caused by the irritation of a dead splinter; and when the abscess breaks externally, the probe will pass through it, and through such a small hole, as you see several in these two preparations, and rests on the rough dead splinter. If you have not found this out before, you have found it now, and the dead bone must be removed. The earlier it is done, the softer the deposit, which in such cases will cut like Parmesan cheese intermingled with lime. Such was the practice of those in the Peninsula, who knew what they were about. The great difficulty I had to encounter was to teach, or rather to unteach, the young gentlemen who came to us from home. Those that knew any thing were mostly filled with theory not founded on practical information; and many of their masters, when they condescended to notice us at all, have, when they learned a little better themselves, attributed the mal-practices of their own students to us. You may perhaps think, from what you have heard and read, that the case I have just shewn you from Rolica is an accidental one. If you will inquire for Colonel Hodge, in the Spring, at the United Service Club, he will readily shew you his arm, broken by gun-shot on the same day. It is even a better one.

During the retreat from Talavera, the wounded who could walk over the bridge of Arzobispo were afterwards collected at the convent of Deleytosa for treatment. Many underwent operations, and many lost their lives for want of proper care and conveyance during this short march of half a dozen days. The broken arms were mostly amputated. I objected to some few undergoing this operation, and saved them for that day; but I lost a friend thereby who never cordially forgave me even unto his death.

At the battle of Albuhera, Sir Gregory Way, now a major-general, was shot in the left arm, which was broken in the upper third at that place which Baron Larry and the French surgeons of the day say, rendered amputation necessary. I desired that it might not be done. I have not examined it since it left my care on moving from the village of Valverde, and I believe the shoulder is stiff, but the use of the under part of the arm seems perfect. The last instance I shall give you is that of the present Master-General of the Ordnance, Sir Hussey Vivian. He was also shot in the left arm, and had it broken before Toulouse. Sir James M'Grigor was with the head-quarters, on the left bank of the Garonne, and was pleased to depute me to act as chief on the right, where the principal part of the contest lay. The officers under whose charge he immediately came, (and they were well taught men at home,) decided for amputation; but knowing I was on the field, they deferred for my opinion. On moving into Toulouse, after the battle, he had the able assistance of Mr. Gunning, and regained as good an arm as he had before.

I shall finish this part of my lecture with the following very general conclusions.

1. An upper extremity should not be amputated for almost any accident or accidents that can reasonably happen to it from musket-shot. Whenever it is done a special report should be called for by the Inspector-general of Hospitals, and the broken bones and other cause for amputation should accompany it.

2. If the head of the arm-bone entering into the composition of the shoulder-joint is broken to pieces, that portion of the bone should be sawn off, but the arm must remain. The patient will have all the under use of it.

3. If the elbow-joint is shot through, it is to be cut out, and the fore-arm brought into the bent position. The sufferer will have a very good and useful arm.

4. A fore-arm will bear so much fracturing and cutting, at the time and afterwards, that it should not be amputated without a special report of the reasons, with the broken bones, being sent to the inspector.

5. A thumb and a finger, or two fingers, are worth saving; but a serious injury to the wrist-joint generally requires amputation.

The treatment of gun-shot fractures of the fore-arm must be conducted on the same principles as those of the upper arm. The fore-arm must be placed in the half-bent position, or at a right angle with the arm. The thumb must be uppermost, the hand not supported, and two solid splints wider than the arm, and duly padded, should be placed one on each side. The arteries when wounded must be secured at each end, according to the principles laid down in my work.* The danger arising from necrosis is to be carefully attended to, and the motions of supination, and pronation must, if possible, by early attention be preserved.

The splints used for the upper arm should be made of solid wood or tin, firm although light. The anterior one should be made at a right angle, which angle should correspond with the bend of the arm. The anterior piece, or that for the fore-arm, should be hollowed, so as to admit of a very slight degree of pronation, as it is painful and not necessary that the hand should be quite supine.

7. If the surgeon does not know the anatomy of the parts well, he had better cut off the arm.

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* On the Diseases and Injuries of the Great Arteries of the Human Body with the Operations required for their Cure. 1830.

I have pointed out to you the miserable and desolate state in which the medical officers, not attached to regiments, are situated in a campaign; from which you will perceive how necessary it is that some amelioration should take place in their condition; not so much on their own account, as on that of the persons committed to their care. These poor creatures suffer in a manner it is quite deplorable to think of, and which, I must say, is a disgrace to the character of the country, and to every man and woman in it possessing one spark of the common feelings of humanity. If an unhappy wretch of a doctor has to travel two-thirds of a day, generally on foot, at the tail of a cart of any kind, shivering and wet to the skin, without food, with scarcely a dry change of clothing, with no one to help him in the common necessaries of life, how can he attend to his sick and wounded? It is impossible. Self-preservation is the first law of nature. He must ascertain where he is to eat and sleep, how his clothes are to be dried, to seek food for himself and his beast, if he has one, and to do every thing, if he wishes to live himself, except attend to his professional duties. On his arrival at the halting-place, he ought to see his people housed, put to bed if possible, and give directions for their food, make up their medicines, see them administered, bleed them if necessary, or dress their wounds. A man worn with his day's labor, or however tired under a burning sun, may do all this for two or three hours more, if he has a hope of a tolerably comfortable place to rest himself in, or of something to eat, but not otherwise. At night he should again visit his sick, and arrange for a move shortly after daylight next morning, when all these duties are again to be repeated before the march is begun. Under existing disabilities, no man, with the enduring strength even of a jackass of Malta, or of Old Castille, could do it, and the sick must be neglected, and they have been neglected whenever the doctor was unequal to the duties.

Many a brave and gallant soldier lost their lives from the want of that attendance, and care I have alluded to. Many desolate and unhappy mother has mourned the loss of a son she need not have mourned for; yet England is the greatest nation upon earth, she professes to be the most civilized, the most humane, and did give twenty millions sterling for the relief of the negroes. It is to be hoped, however, that the 658 gentlemen who hold the purse-strings of the country may learn the truth, and I have full confidence that when they do, they will draw them on this point liberally, so that its gallant defenders may on such occasions feel that its boasted humanity is not only for the ear.

There are two ways of proceeding in order to enable the junior medical officers of the army to do their duty to the sick and wounded committed to their charge. One is by giving them an allowance for a servant, under ordinary circumstances, whether at home or abroad, and by granting them a soldier-servant in addition, on service, in whom they may repose the confidence of not being materially ill-treated unless he deserts. I will hereafter shew where this servant may come from with advantage to all parties. The second mode of proceeding is by much the best, viz., of appointing three assistant-surgeons to each regiment on active service. A young man taken into the army at 21 years of age, which I hope will soon be the age at which he can obtain his diploma as a surgeon, knows nothing of the management of sick, or of providing for them in any way; nor of the character and tricks of the soldier, however good his classical and general attainments may be, in addition to his professional knowledge. He is called upon to regulate and command upon points which he does not understand, and therefore does not do, and he has a great part of his duty to learn when he ought to be putting it into practice. He is comparatively inefficient. The assistant-surgeon of a regiment learns the duty of a soldier in addition to that of a doctor, and a military surgeon ought to know one just as well as the other. I always found in Spain that three assistant-surgeons of regiments were worth four assistant staff-surgeons or mates who had not been attached to regiments. They know how to manage the soldier, as well as to physic him; they go into action with him as a point of honour, willingly and cheerfully; they attend him kindly and feelingly afterwards. They are equally under the control of the head of the medical department; he can and ought to be able to rule them as he pleases, and although he may often send them to the rear, their tendency is to return to their homes with the regiment in the front. The tendency of the hospital mate or assistant is, on the contrary, to get away to the rear, where he may perhaps fine something like a little comfort. The expense of each man is the same.

I once ordered one of the best assistant-surgeons I had, to the rear with a large party of sick; when I was informed that his commanding officer would not allow him to take his servant with him, being one, although a bad way of inflicting a punishment which he perhaps had deserved. I remonstrated, saying it was my sick must suffer, and that I would have my duty done; but I did not succeed: and in order to shew my feeling on the subject, I sent another assistant-surgeon out of his regular tour of duty. The general of division would have settled the matter in a second, but I did not choose to do it in that way, for it would have made us bad friends on a point of duty not strictly medical; and I was on such good terms generally with all the commanding officers that they never disputed any thing I desired when strictly in my own province. You will hardly believe, that an hour after daylight, when it was quite plain the enemy were quiet in their quarters, I have desired one wing of a regiment to take two tartar emetic pills, and the other wing two calomel pills, and have seen it done, being the best proof I can give you of the confidence of the officers, and of the discipline of the troops. You must learn on service to prevent a fever, as well as cure it, or at all events to be prepared to meet it in the best possible manner. A short time after we had a small fight, and the commanding officer of the regiment in question, a very distinguished soldier, was wounded towards the evening; and as a commanding officer, when shot through the body, becomes nobody, he was pretty much at the mercy of the doctors, or rather at mine, for I took good care his own regimental officer should not stir from the regiment. He was not the worse off for being in my clutches, as I wished only to read him a gentle practical lesson. without almost making him feel it. I removed every body from the village except himself, knowing he had no conveyance, and allowed all the troops to pass except the rear. It was now late at night, and he sent to ask whether I really did mean to let him fall into the hands of the enemy. This was all I wanted, as I had always intended he should accompany me. I therefore went to him, saying I had come for him, as I had arranged; but he had no means of moving, so I offered to lend him my horse, by the side of which I walked until morning. We never alluded to the old affair; but we never had a difference about doctoring afterwards; and he has since paid me, in London, the highest compliment in his power, viz., he placed his life in my hands, under circumstances of great difficulty, and he escaped. If he should ever serve again I am sure he will cherish well his doctors, if they deserve it, and I care nothing for them if they do not.

I remember a village on the great plain of the Guadiana, near Merida, in which three regiments were quartered in the sickly season in the Autumn, when fever prevails. Three rows of hillocks marked the last resting-place of the dead on earth, and my attention was attracted by one row being much shorter than the other two. I found, on inquiry, that the regiments were very much of the same strength, and quite under the same circumstances. The doctors were equally able; two were men entering rather on the middle period of life, the third was a very young man, and perhaps the worst doctor of the three; but the short row of tumuli belonged to him. I was very desirous of making this out, and after carefully visiting all the hospitals and quarters, I ascertained the reason. He was the better soldier, if not the best doctor. His hospitals were in better order, the materiel was more perfect, the labour bestowed on every part, except in physic, was greater, and five per cent at least of human life was the saving and the result. I never saw it otherwise.

A staff-surgeon, who has not been a regimental officer, has this kind of duty to learn; and if he tries it a little late in life he rarely learns it, or at all events, rarely practises it, and from five to ten per cent, loss of human life is the consequence. It was the custom, at the commencement of the last war, to appoint gentlemen who had influence at home to the offices of staff-physician and surgeon, totally overlooking the merits of those who were serving, and had therefrom just claims for those appointments. This error has been corrected, but the situation of the staff-officer has not been improved as it ought to have been; he now knows his duty it is true, but has not the means of doing it as it ought to be done on service. He is gazetted a staff-surgeon, which is stated to be a promotion; and every soldier, on being promoted, knows he attains a step of rank even if it be only from corporal to serjeant; but as the medical officer can hold no direct military rank or command, a relative rank is given him, which is of use only as it regulates his quarters, his baggage, his pension for his widow, his prize money, his horses, &c., and a regimental surgeon has this rank as a captain. When promoted, it is but natural to think he would then gain something by such promotion, as all others soldiers do; but no, he is still to be a relative captain. He is to have no servant, but is allowed five shillings a week to find one, when he can catch either the money or the man In the mean time, he is appointed to a duty which in the field he can hardly do well, without four animals, and certainly with not less than three, and two servants, a proportion allowed to every staff-officer of the military branch. The staff-surgeon should always be promoted or made on account of his knowledge of anatomy, medicine, and surgery; he ought to be the ablest of the officers of the corps, and imbued with the zeal and spirit of a soldier in all that concerns them, and his department. He should therefore be promoted for his merit, and should feel that he has gained something, at least in rank, and privileges, as his reward. So far from this being the case, he will find his expenses increased, his means rather diminished, his comfort greatly reduced. After years of service, any regimental surgeon can exchange with him on equal terms, and is equally eligible for promotion; an arrangement which has been made of late years for the sake of economy. It is not then wonderful that few regimental surgeons can be found who will take a staff-surgeoncy, unless to escape the West Indies for a time; and that few cavalry surgeons will even take a deputy-inspectorship of hospitals, unless they can be employed as such. The office of staff-surgeon is therefore one nobody wishes to have, unless for some particular purpose of his own, unconnected with the good of the service; and then those gentlemen are generally too old or too idle for any severe, and active duty. When this occurs they would rather return to a regiment, and thus the promotion of the juniors is arrested. The last assistant-surgeon promoted to a surgeoncy with whom I am acquainted was 26 years an assistant, the one a little before him was 28 years an assistant, and it is not very uncharitable to suppose, that at 50 odd years of age he may be unequal to the duties he may have to perform. I have no hesitation in saying, that any such person will be unequal to the duties of a regimental surgeon before the enemy, if continued for any length of time. I shall not enlarge on this subject, but merely remark to you that the medical and surgical duties of the Peninsular war were done, when they were well done, by men from 20 to 35 years of age. An elderly man must be an indifferent operating surgeon unless he is in the constant practice of his profession as such; and even then he cannot bend his back as long and as often as is required; he is like an elderly captain or major of infantry, disposed to get a cough, the rheumatism, or the gout, to say nothing of a stomach-ache after a night or two's exposure to a heavy rain, and to find his way to drier lodgings in the rear. If middle-aged men could be found of the iron mind and frame of my excellent and kind friend Lord Lynedoch, my observations would be worth nothing, but I am afraid there are, and have been few in the world possessing his ardour and principles.

Of the senior branches of the medical department, I shall only say they are worse treated than the juniors, but my old and able friend, Sir James M'Grigor, understands this subject better than I do, and will I hope be able to improve their situation. There is no man has more love for his profession, more kindness of heart, a greater desire to act fairly and honorably to every one, but he is without the power of granting promotion except to very few. With assistant-surgeons of 28 years standing, and every other situation in proportion, a man must be almost an angel to please anybody, and more than an arch-angel to please everybody. His office is one that nobody can envy him under such circumstances.

Lest it should be supposed that, in the foregoing observations on army doctors, I should mean indirectly and covertly to censure any particular persons, which is not my object, I shall proceed to shew you how the Legislature has thought fit to treat the civil doctors, and I do not think you will find much difference.

When a convicted felon is found previously to execution to stand in need of surgical assistance, it is provided by Act of Parliament that he shall be attended by a man possessing the only known qualification in the empire in surgery, viz. a diploma from one of the three Royal Colleges of Surgeons. Before a gentleman can be an assistant-surgeon in the army he must have the same qualification; and it is also required from a surgeon in the navy. By the Poor Law Bill this qualification, small as it is, is laid aside for the poor, thus placing them in a worse situation than a convicted felon, or a soldier, or a sailor. It is stated instead of that qualification, that the doctor to attend them shall be a medical man duly licensed to practise, for which person the Legislature must send to Australia, from whence he may come perhaps with the black swans, there being no such man known in Great Britain or Ireland. In these countries a man may be either physician by a degree, surgeon by diploma, or apothecary by license; but no one qualification embraces the others, and the words medical man are just as indefinite as they would be found in the law, if the word lawyer were used to describe that class of men as fitted for all the higher offices The misfortune however is, that it has pleased the Executive to understand, that the Legislature meant by the words, medical man, an apothecary, because he has a license to practise as an apothecary, and the Boards of Guardians, acting under the Act of Parliament, take an apothecary, and make him a surgeon by their own authority, and agree with him to do the higher operations of surgery, which he is not qualified to perform by any other known authority, at the lowest price they can grind him down to; thus placing the poor man when sick, in a worse situation than a convicted felon. By this reading of the Act of Parliament, gentlemen, oftentimes illiterate, are enabled to allow the most ignorant to compete with the most able, and to make the decision depend not on ability, but on the saving of money. An Act worthy of the lowest state of barbarism in any country, and very disgraceful to the Parliament which enacted such a law. The only excuse for them is, that they did not know what they were about; that they took it for granted, the designation of medical man was good, and sufficient. If it had been a matter connected with the Church or the Law, the heads or authorities in these professions would have been consulted by the person at least who drew the Bill; but being a matter only of human life as connected with good medical treatment, every gentleman thinks himself entitled to dabble in it. The chief commissioner, Mr. Frankland Lewis, who possesses one of the best and kindest hearts in the world, has done his best to remedy the evil, but he cannot give a new reading to the law. There are also many places in which persons qualified to act assurgeons or even apothecaries cannot be found, and no one can desire impossibilities; but even this is the fault of the Legislature. Five years have elapsed since a Bill for the Regulation of Surgeons and Apothecaries in England, and Wales, was brought into the House of Commons, by the authorities of these two bodies, who agreed in its provisions, with one addition, to be afterwards made in Committee. This would have rendered the public great service, and removed various disabilities, and vexations under which the profession labours, and have prevented many of the difficulties which have since taken place, and its defects when clearly shewn might have been amended. It was opposed by Mr. Warburton, and others, and turned over on the place, that a more extensive enquiry was necessary before a good, and comprehensive Bill could be framed, capable of removing every grievance. What followed? Mr. Warburton had his Committee the year after; it sat, or rather he sat nearly alone, as chairman, and Committee for several months; he published three large volumes of evidence, but has made no report; and for five years therefore the public has been deprived of the advantages which would have been obtained from the rejected Bill. This is not all. The College of Surgeons of London, instead of advancing and improving with the times, had stood still, waiting for Mr. Warburton's measures. Instead of increasing its demands on the candidates for its diploma, as had been done every two or three years for the last fifteen years, and as it would have done long since; instead of insisting on a short but sufficient bona fide education, in the place of a long, idle, and insufficient one, by which both parents, and the public would have been greatly benefited, they have done nothing. That they have done so is not my fault. Mr. Warburton cannot make a report from his evidence, which shall be founded on fact, because a part of that evidence is entirely hearsay matter; many parts which refer to facts are not true for the same reason, and on one side only was there any cross-examination. A Committee of the House of Commons, desirous of knowing the truth, and being totally unacquainted by education with the subject, ought to have proceeded like an election-committee, and have allowed each party implicated, whether appellants, or defendants, to have had one such medical counsel as they pleased, with fair right of cross-examination in the usual manner. The committee might then perhaps have made out the truth, but as people wickedly say that small evidence will sometimes enable even an election-committee to decide a question, I fear a committee of the House of Commons, as it is at present constituted, is not the best mode of proceeding, in order to elicit it in medicine.

I shall conclude this subject by drawing your attention to the fact, that neither the lawyers, nor the churchmen of the three kingdoms, have been able to form one code of law, or of religion, for them. Nor can any one form one code in medicine, without repealing all the Acts of Parliament, and abrogating all the Charters which have been granted by various kings for three or four centuries past; a proceeding which I do not think the Government will recommend, or the Legislature sanction. You will perhaps ask me what can be done under such circumstances? the answer is simple, and the mode of proceeding as much so. Let a secretary of state, or a chancellor of the exchequer, write to the different Universities, Colleges of Surgeons, and Societies of Apothecaries, desiring them to communicate with each other, and with him, on such points as they would wish to have settled by Act of Parliament, for their mutual advantage and that of the public. These bodies would, I suspect, soon come to a right understanding, as far as their own interests were concerned, and I hope those of the public. The Colleges of Surgeons of London, Dublin, and Edinburgh, feel their respective disabilities too strongly, not to embrace readily any proposition which would lead to their final settlement. The other two bodies would not, I think, be very intractable. The opponents on all sides should even have fair play, and any great functionary would be able to settle the matter, both civil and military, to the advantage or all parties and of the public, with very little trouble, in less than two months. But no functionary, whether Whig or Tory, can find time to trouble himself about it; and the public must continue to suffer, until some one shall be found who may have time, and humanity enough to undertake it.

The campaigns of 1793 & 4, followed by that of the Helder in 1799, seemed to have left little impression on the minds of the medical chiefs of the army in 1808, as to the wants of the sick, and wounded soldier; and very little more on the minds of those whose duty it was to attend to the conveyance of troops to the scene of action at the commencement of the war. The troops were embarked in transports, maintained at a great expense, and commanded by men who were oftentimes quite incompetent to the charge committed to their care; and the loss of ships, and the loss of lives, which frequently occurred, have been usually set down, after formal inquiry, to unavoidable accident, when, I have little doubt, they really arose from extreme ignorance or negligence. I never heard of the loss of a transport having either troops or convicts on board, without being very much of that opinion, and for which I will give you some of my reasons. I embarked with General Spencer's force, and sailed from Portsmouth in December, 1808. On Christmas-day it blew a gale from the southward, against which we contented in vain. The men-of-war made a signal, which we afterwards discovered to be that for the first rendezvous, viz., Falmouth; but the instructions of the master of the transport had it not. The flag was there, but the agent had not taken the trouble to have it painted of the regular checquered color, and this was the case with others, so that we did not know it when we saw it. After ten days more contention against the elements, and accompanied only by one other vessel, we bore up of our own accord for Portsmouth; and on the way met a privateer, who ran under our stern, but, finding us full of men, did not like to meddle with us, or we should have found our way to France. This misfortune would have been set down to the elements, or any thing else, rather than to the negligence of the agent of transports, who had not taken the trouble to see that our signals and instructions were correct. He had not, I suppose, any yellow paint, and could not take the trouble to write against the plain flag that its color was checquered yellow and blue. When I came from North America, I kept the ship's reckoning, and took the daily observations with the captain, which indeed I had done before on going out, and we made the Lizard with the loss of only half a day's sail, and afterwards the Start. From this point we took a new departure in the afternoon, and the next morning found ourselves in a fog, by my reckoning, on the back of the Isle of Wight, by the master's, twenty miles from it. As he would not slacken sail, or alter his course, I went forward to look out, and soon saw the breakers. He was frightened half out of his life, but the ship answered her helm, and when we were fairly about, the shore was close under our stern, being St. Catherine's bay, as we learned from a fisherman shortly afterwards, when the fog cleared away, leaving a beautiful Summer's day. When the other officers laughed at him for being beaten by the doctor, he replied, shaking his head, It is true enough, gentlemen, but it all comes of doctoring; which he believed was something like magic, and taught every thing. General Spencer sailed once more from England, and arrived at Gibraltar. Here another accident happened. The St. Domingo, transport, in which I was, anchored on the bank in the bay, and we all went to bed, being in harbour, except the watch and the mate. Being a bad sleeper on board-ship, and knowing the carelessness of the sailors, I went on deck in the middle of the night, and to my astonishment found the ship was drifting. The mate, on being awakened from his nap, under the windward bulwarks of the vessel, would not believe it, until I shewed him the cable nearly right up and down. Well, we turned up all hands, got sail on the ship, and the moment we tacked, the battery at Algesiras opened upon us, (it was before we made friends with the Spaniards), and after some trials, they sent one shot through the accommodation-box on the poop. It made such a noise, and such a hole, that a harlequin from Drury Lane would have been delighted to have had an opportunity of jumping through, if he had been there. We got half a-dozen more shot from Cabrita point on passing, and then beat our way back, to the astonishment of the fleet and the garrison. who could not conceive what we had been at. If I had not happened to go on deck, we should have awakened in the morning in Algesiras. My last turn in a transport was from Lisbon to Santander, off which port we arrived in the evening, but to late too go in without a pilot; so we stood off and on, and at last lay to, with a good fine breeze on shore; the tiller lashed a lee, and the mate and one sailor to keep watch. At midnight I looked out of my port-hole, and saw the ship was making way fast, and approaching the shore, and there was a very odd noise from time to time on deck, as if the tiller was wagging about at its own pleasure. Thither I repaired forthwith, and found this to be the case. The tiller had got loose, the mate, and sailors were asleep. and the vessel was fast going into Santona, under the guns of which we should have been in another hour. It is therefore with no small satifaction I have seen that the smaller frigates are to be fitted out as troop-ships. I have heard it said that some of the smaller line-of-battle ships will be equipped in a similar manner; but not, I hope, to carry troops in the beginning of the season, to Canada; for if a 74 should take it into her head to manœuvre against an ice-berg, in April, on the coast of Labrador, she will probably bump; or if she tries a *pas de deux* in the Gut of Canso with another, she will, in all likelihood, make the *faux pas*.

The army landed in Mondego Bay, under the orders of the Duke of Wellington, with the expectation of seeing the enemy forthwith; but no arrangements were made for sick or wounded with the regiments. I went on shore with three days' biscuit in a haversack on my back, which contained besides a pair of shoes, two shirts, two pairs of stockings, washing and shaving apparatus, and a pocket-handkerchief. I was ordered to purchase a mule or an ass for the instruments and medicines, by the commanding officer, who could not give me the money to buy it, nor was any allowance then made for it, as will be seen by the Duke's dispatches. I had two one-handed men attached to me, whose hands I had cut off after maiming themselves in America, and who had hitherto been necessary cleaners,—a class of laborers not required in Portugal. These fellows could saddle a horse or a mule nearly as quickly and as well as if their hands had not been amputated, and having done good service until after Talavera, they retired on a pension for the loss of their hands in action, no one disputing the fact of their having been lost before the enemy. They took care of the jackass that carried the physic, and surgical stores in a biscuit bag, which I begged from the master of the transport, there being nothing else to be had; and thus we set off to fight two or three battles and take Lisbon. By his Grace's dispatches, I see that two bullock-carts were demanded and granted for the medical stores of the army, which, his Grace further specifies, were to carry 25 bearers, one case of utensils, principally, I believe, tin kettles, spitting-pots, and chamber-pots, and one medicine-chest; which specification I know to be critically correct, as the two carts with the above contents, came into my hands at Rolica, to be taken on by me to Vimiera. I have no doubt there were plenty of stores on board-ship, but it is the arrangement, and the utter ignorance of the subject, which is ludicrous. Each surgeon should have had a pair of wicker panniers covered with bull-hide, and duly filled, of a good form and size, slung, and fitted to a proper pack-saddle; and there should have been a horse-transport or two, to carry a horse for the field-surgical stores of each regiment, and from half-a-dozen to a dozen spare ones, similarly accoutred, for extra stores, with a man from each regiment who understood the care of a beast. The extra animals, panniers, stores, &c., might, on landing, have been distributed, one to each brigade in charge of the surgeon best likely to take care of them. It was very unwise to trust to an enemy's country for this supply of animals, and a very paltry economy on so large an expedition. In our own country, such, for instance, as Canada, the horses are the only part of this equipment which ought to be omitted, and they should be furnished by the commissary-general, as one of the first parts of his duty. The allowance made to the surgeon should be sufficient to enable him to keep it up, for it should be an animal more than equal to its work, and should invariably march before the last section of each regiment, and should never be allowed to go to the rear. When we marched to surprise the French, on the advance to Oporto, an order was given for all the baggage-animals to go to the rear. I, however, placed the mule with the physic, and the mule with the entrenching tools, in this situation, and walked and rode by the side of them. In the middle of the night, the general of the division (since dead) passed, and was furiously angry at the order having been disobeyed, and desired to know for what reason I dared to have two mules there. I very submissively replied, that as it was understood we were going to surprise the enemy, it was very probable that they might like to fight rather than be taken, and that we might thereby have some wounded, when the surgical stores would be wanting. He then desired to know what business I had with the entrenching tools. Now I dared not say that such a thing might happen as the pickaxes being wanted to knock down a wall, or for other military purposes, so I very maliciously replied that there might be some killed as well as wounded, and it might be, I thought, as well to bury them. This only made him the more angry, and he ordered them to the rear instanter. In about ten minutes the aide-de-camp came back to say the general would allow the mules to return. As I was quite sure I was in the right, and as events proved it, I told the aide-de-camp they had been gone so long, he had better go and find them, for I could not undertake it; and as the poor fellow saw the folly of the proceeding, he very quietly went to the rear, and brought them back. In this way we began,—how did we finish? When we crossed the Garonne, to fight the battle of Toulouse, the left flank company of the Fusiliers crossed the bridge of boats first, *en tirailleur*, then the band of the Fusiliers, playing the British Grenadiers, then my two mules, as belonging to the chief of the medical staff on that side the water, (and they were the only mules allowed to pass except those of the regimental surgeons,) followed by Sir E. Pakenham and myself. Two French videttes galloped forwards, fired two shots over our heads to announce our crossing, and then retired. Times and men were altered, and it was well known then that a doctor without his apparatus was not much better than a battery of artillery without ammunition. In more peaceable times, the medical staff mules may march with the general's baggage, but when there is something to be done, they should never be out of the doctor's sight; he should be made to keep them equal to any service which infantry can be called upon to do, or mules or horses to perform.

Under these circumstances we fought the battle of Rolica, the surgical part of which, the surgeon of the 9th, Mr. Brown, and I, had nearly to ourselves, for the two bullock-carts and the hospital staff were a long way in the rear. They came up, however, at night, worked with us on the 18th, and relieved me on the morning of the 19th, when I started for the army at Vimiera, with the two carts, and stores in question. I wished the carts at the devil in the first instance, on account of the delay they occasioned; but very soon took a particular fancy to them; for we found the French cavalry patrolling between Lourinha and Vimiera, to the great alarm of both the natives and ourselves. They counted on their fingers two patrols of an officer, and twenty men each, one being before, the other on one side of us, and told us they would cut us to pieces if they caught us. I had some twenty old soldiers with me, all of whom I knew well, and two or three subaltern officers of other corps, who were taking advantage of the convoy, and whose duty it was to fight. I tied the heads of my second bullocks to the tail of the cart which preceded them, and thus continued our march across the country, which was open, although hilly, and soon satisfied my old soldiers that, with their backs against the bullock-carts, they were not to be thrashed by a patrol of cavalry. The pots and pans arrived safe, ready for the battle of Vimiera on the 21st. The 20th was a beautiful day, and I spent it happily with three officers, my messmates, who are all since dead. Captain Gauntlett fell, mortally wounded, on the hill at Talavera, forming the left of our position. He was struck on the side of the head by a ball, which cut his hat, and carried away a portion of his skull and brain. It ought not to have done this, if his skull had been of any thing like an ordinary thickness; it was unfortunately, however, as thin as thick catridge paper used in packing; it was the thinnest bone I have ever seen, and he lost his life in consequence: he died in my arms in Talavera. Captain Humfrey was struck on the hip by a cannon-shot at Albuhera, which carried away the limbs of two men behind him, and died on the spot encouraging the advance of the regiment, for the honour of old Ireland, of which he was a native. The third died in bed, Lieutenant-Colonel Stopford, promoted to that rank from home, and unattached; he rode with me the whole fight of Toulouse. The moment the last redoubt on the enemies' right was taken, we rode up to it, and when all was quiet, and I was giving directions about my wounded, the French fired their last shell,—the last, I believe, that was fired in anger against us in France; it burst just over his head and mine. When our first fright was over, he laughingly said, If that shell had killed us both, which of us would have been called the greatest fool? To which I replied, that he would only be called unfortunate, as an amateur soldier, but that I should be called the fool. It is quite impossible for a regimental surgeon to be out of fire, if he does his duty, and a medical staff-officer can scarcely be out of the way of cannon-shot, and the doctors are therefore very unjustly treated in being classed with the clergymen, and the commissaries. They do not actually fight, it is true; but I will venture to say that the surgeons of the Fusilier brigade, in Spain, have been under more fire, take it all in all, than a large proportion of the general officers of the army. I would tell you of the unkindness with which one of these gentlemen is now treated, after thirty years of active service, if I were not afraid my mention of him might do him an injury.

The morning of the 21st dawned upon us in all its brilliancy; distant clouds of dust announced the approaching contest; our breakfast, of biscuit and water, with a bunch of grapes, was soon dispatched; and we at last moved to the high ground on the left of the British position. The fight had begun before we got there, and the French advance was, as usual, valiant. The fire of their guns was heavy while it lasted, and it was at this moment I met with the wounded officer of the 40th regiment, whose case I have alluded to in the 3d edition of my book* whose ball I pulled out of his thigh, for three inches, hanging in his shirt, like a shilling at the bottom of a purse. Whilst I was doing this he got a crack from a spent ball on his hind quarter, which made him jump, and we thought it advisable to retire into a water-course, which allowed our heads to be under cover. Shortly after this, Sir H. Burrard came on the field, looking remarkably well, as if for a field-day in Hyde-park. I never saw him before nor since, that I know of, nor have I the slightest intention of saying any thing disrespectful of his memory, but that one sight of him quite convinced me he was unfit to command an army in the field. I am satisfied that his head, if examined phrenologically, would have responded to the best wishes of the Secretary of State who selected him for the service, and that he possessed all the talent a commander-in-chief ought to possess; but he outweighed it below; he was too large in the waist; and although a good soldier may require a large bump or two in the head, he ought not to have them in the belly; and if the Government of this country will allow soldiers to gratify their military propensities, and serve before the enemy, they must take care that they first mortify their gastronomic ones. Lord Byron says, "I hate a dumpy woman;" although the particular dumpy alluded to by him was, I assure you, worth looking at: and I equally hate a dumpy soilder; not that they cannot stand fire, but because they cannot stand fever, at all events I have never been so fortunate as to see one. The Duke of Wellington has several times, in his dispatches, insisted upon it that general officers going out to Spain should declare upon honor as to their willingness, if not capability, to serve the war. The reverse of this should take place with inferior officers; and if they have any physical disability, rendering them less able and less active than a soldier ought to be, they should not be permitted to go. They should be allowed, if they have deserved it, an honourable retirement; and the 658 gentlemen of the purse-strings should draw them liberally in their favor, if they wish the country to be well served. The country expects every man, before the enemy, to do his duty; but if men are sent, who are physically incapable of doing it as it ought to be done, disgrace and disaster can alone be expected.

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* Treatise on Gun-shot Wounds, on Inflammation, Erysipelas, and Mortification, on Injuries of Nerves, and on Wounds of the Extremities requiring the different Operations of Amputation, &c. &c. 3rd Edit. 1827.

General Nightingale's brigade to which I belonged, formed in line on the brow of the hill, on the right of the position, of the left of the army, with Sir Ronald Fergusson on their left. The French made a show of advancing across the valley, and their officers gallantly set them the example; but it would not do; it was only a straggle, and they soon retired. Our people were calling for the order to advance; but I told them to keep themselves quiet, for I had overheard enough of the conversation between Sir H. Burrard and the Duke, a little before, to know there was to be no advance. I had even heard an officer invited to dinner; and I therefore set about my own immediate duty, sure of not being interrupted.

If the affair of Rolica had been highly honorable to the few troops engaged, this had been glorious to a greater number. They were equally important to the advance and improvement of British surgery; which seems to have been utterly neglected in the previous campaigns of Flanders and the Helder. There was a single house in the rear near the front of our position, and I dare say it is there still, which I had selected for such wounded as I could collect of all parties, having few of our own. I had cut off two or three legs with the help of my assistant, when at last in amputating a thigh high up, the tourniquet-buckle broke and it fell to the ground; the bone had just been sawn through, and the limb fell with it; the patient was likely to bleed to death. I seized the bleeding end of the femoral artery with the finger and thumb of one hand, and compressed the artery in the groin against the pubis with the other, whilst my assistant, Mr. Curby, put a ligature on the vessel above my thumb. I found I had perfect command of it with each hand, and when it was secure, and we had time to recover from our alarm, I could not help saying; Why what could Mr. John Bell mean by frightening us all so, by saying it was impossible by ordinary pressure to prevent the passage of blood through the femoral artery? Thinking however I had met with an exception to the general rule, rather than that I had found out the general rule itself, and that Mr. J. Bell might still be right, and I in the wrong, I went into the village of Vimiera early next morning to try the point on another amputation or two. I worked away all day, few people being very gluttonous of work, and established my fact that I was right, and that Mr. J. Bell had given the exception and not the rule. Since that, you know I never apply a tourniquet, for various reasons I have assigned in my work, except when I have bad assistants; and in the latter part of the war, few who knew anything of their profession cared more for any artery in the body, than the troops did for an equal number of the enemy. Both doctors and soldiers thought themselves sure of their opponents. When we came home in 1814, several of us thought we had learned a good deal during our campaign; but as we had not the vanity to suppose that we knew everything, and that our contemporaries in London were standing still; the best of us deemed it right to revisit the various schools at which we had received our early education, and hear what the different teachers had to say. With a great deal of highly useful information, we were surprised also to find that they knew little or nothing of our improvement. In describing the operation of amputation at the shoulder-joint, they could not conceal their alarms; and whilst they were screwing their tourniquets on the shoulders of the young gentlemen they produced as objects for observation, we were internally laughing with all the complacency, and bonhommie their unvaried kindness deserved. I settled this matter by inviting as many gentlemen as pleased to come to the York Hospital at Chelsea, where I had two clinical wards. I took an arm off at the shoulder-joint without any tourniquet or compression at all; and in order that they might be more than convinced, I allowed the great axillary artery to throw its jet of blood over two or three of them, that they might see how easily and completely it was in the power of my finger and thumb.

Sir C. Bell, in his Institutes lately published, has endeavoured to support Mr. J. Bell's opinion, by saying that if he were wrong with regard to the principal artery, he was right in saying that the bleeding could not be stopped because the collateral vessels would bleed, and that a particular compression of the surrounding parts must take place to prevent this. But this is merely begging the question; none of these vessels give any trouble, or are worthy of the slightest consideration. When I come here, gentlemen, and cut off the tip of an old woman's finger, and a thread of an artery throws out its blood, I beg one of you to put your finger on it, that it may not spot my shirt-collar, and frighten the lady I may next visit; and I should do the same with those small arteries coming from the internal iliac in a case of amputation at the hip-joint. They are all in recent cases quite unworthy of your further notice, and in old cases they deserve but little consideration; in fact, as coming from a different source, they have nothing to do with the question. The operation of amputation at the hip-joint was not even shewn, it was declared to be too barbarous to encourage, although we had done it often, and my successful case was actually seen in London, and was afterwards for years the only one that ever had been seen in Paris. An elderly gentlemen sent for me at that time, saying, without further circumlocution, Sir, I have sent for you to know whether you can take my thigh out at the hip-joint. Seeing my patient was an oddity, I replied, I would do it with the greatest possible pleasure, and he desired it might be done at 12 next day. To this I demurred, as it was necessary to know the why and wherefore, and I begged a consultation with the three surgeons whose opinions he had taken. They all declared his case incurable. Mr. Cline pronounced the operation of amputation to be inadmissible, barbarous, and little less than murder. The second surgeon followed his example, and declared he could not countenance it by being even present. The third, Sir Astley Cooper, said, he would assist me if I would do it. It was handsomely and generously said, and as gratefully received, although I did not stand in need of aid, having my choice at that time of my old Peninsular assistants and friends. Under these forbidding circumstances I thought it right to promise the gentleman only one hour to live after his operation was done; that I undertook to guarantee, and on these conditions, we did it. When the operation was done, I said, Sir I am happy to say your leg is of; to which he calmly replied, Sir it was a very unworthy member. I sat by his side for an hour, and when the time was out, I said, Sir, you have outlived the hour, and please God you will recover. Sir, said he, please God or the devil, which you like.

I believe in neither. My trust is alone in you. It was quite clear he was a monomaniac. The next morning he satisfied me however he was mad on two points. The apothecary, Mr. Stewart, came in, and was going to sit down, when he begged him to wipe the chair first, and then spit upon it; and on giving him a pill, he insisted upon the box being shook three times, and spit upon. He was quite sane on all other points, and a remarkably well-informed man on most subjects; but he never could speak of religion without shewing the aberration, nor see the apothecary, to whose profession he had an unsurmountable aversion, without proving it. I foretold, that this operation would nevertheless become too common; that the example we had set would be perhaps unnecessarily followed. I have reason to fear that this has been the case; that I have been prophetic.

After I had done the operation at Vimiera, I have described, and which led to such particular results, I turned my attention to a French officer who was just brought in. He was bleeding much, although not dangerously, from a wound in his face, and his white waistcoat, and trousers were covered with blood. I have alluded to this case in my book as one shewing, that gun-shot wounds will often bleed considerably without any large arteries being injured. I spoke to him in French, he immediately pulled out his little book of accounts, which every French soldier carries, and returned thanks for falling under my care, and gave me his watch and his money as a matter of course, and with the view of begging protection. At the first fight of Rolica, the kit of the dead soldier remained on his back untouched, until he was buried, and it is but just to say, that the British officers taken under the eye of the French General Brennier were not plundered. But our troops were apt cholars, and few dead or wounded escaped plundering after that day, whether friends or enemies; and the progress we made in arts as well as arms, was equally great. The contrast between Rolica and Badajos will be perceived, when I tell you that at day-light after the storming of the town, I saw 13 officers lying dead on the great breach, stripped stark naked in the night by their own friends or their allies. In such a way does war destroy our noblest feelings.

Two days elapsed before I could find time to seek for my wounded French officer, I then found him with several others without a sous amongst them; they had been throughly well cleared out, although otherwise well treated, and they admitted they could not have done it better themselves; it was *la fortune de la guerre*, and quite natural. My poor Frenchman came forward to renew his acquaintance, for although I had apparently robbed him, I had still been kind, and kindness begets kindness. You should have seen him open his eyes when I apologised for not having found him before to return him his watch and money. They did not believe I was serious, but when they saw me place the watch, and the doubloons in his hand, they could not restrain their feelings. I was an *ange de dieu*, the most beneficent of human beings. I assured them it was only a common act of kindness that every English gentleman would feel himself bound to do. This sentiment seemed however, rather a matter of reproach to men who had avowed that plundering was quite a natural propensity, and they would not admit of it. I was therefore obliged to take my leave, with a full determination to plunder the first Frenchman I came across, in order to satisfy myself, I was but a man.

The convention, so called, of Cintra followed, and gave us all considerable dissatisfaction. A great part of the army never could understand the why, and wherefore, and officers, and men did not fail to express themselves in a very disorderly manner in the hearing of the highest authorities. That they had sold themselves to the French few doubted, although there was not, nor is there the slightest foundation for the suspicion. Years have since passed away, and the propriety, or the reverse of the proceeding has been discussed by various parties, with different political and military views, and feelings. The two principal of them of late date are Colonel Napier, and the author of the critique on him in the Quarterly Review; but neither of them enter into the feelings of the army against their superiors as generally expressed at the time. The discontented officers and soldiers would never have objected to a convention for the evacuation of Portugal, if it had been made and ratified the day after the battle of Vimiera, viz. the 22d, before they knew that Sir John Moore's force could land at Maceira and be in time to assist; but they did strenuously object to its being made on the 28th, when they knew they had that assistance. If the armistice had been broken on the 28th the whole British army of 25,000 men might have advanced on the 30th. Sir Harry Burrard in bringing down Sir John Moore's force to Maceira did better, as it turned out, than if he had landed it in Mondego bay; he gained several marches by it, and instead of that force only reaching Lisbon on the 14th of September, as shewn by the commentators and critics, it might have been easily there on the 3rd. It might have done this even if it had gone by the same road, for Villa Franca on the Tagus is only two short marches from Torres Vedras, and from Villa Franca to Lisbon it is only 21 miles of very good road, with a creek to cross Sacavem, which would have been crossed as readily in one case as the other. The Duke of Wellington has shewn in his despatches that he would have marched from Sobral to San Antonio de Tojal; Sir J. Moore's force taking the road by the Cabeca de Montechique, on the 31st; and if he had commanded the army and had done so, he would have been in Lisbon on the 2nd of September. We should have had a race for it, but the whole French army left unkilled would have been prisoners, and they would gladly have compounded for the surrender of those at Elvas and Almeida. That Junot might have crossed one-third of his army into the Alentejo is possible, but I doubt it, and he must have sacrificed the remaining two-thirds and all his stores and baggage. That the soldiers of the army were right in the opinion they entertained, is quite as clear as that they were wrong in the open expression of their discontent; but they only asked to do what the Duke of Wellington shews he advised, and says he would have done. Although many may doubt his judgment on political matters, few will express it, or even do so on subjects purely military, and no man can be a better judge of what is consistent with the character and honor of a British officer. I shall therefore conclude by supposing that the gentlemen who approve of the convention on the 28th may probably be in the wrong, and that British history instead of defending them, may at least admit, that it is possible they erred in judgment.

Having paid a second visit to Cadiz, which only increased my admiration for the *muchachas muy lindas* of the *Calle Ancha*, the fashionable street of that city, I returned in time to accompany two regiments on a march to Almeida in support of Sir J. Moore. We here performed a piece of animal magnetism, which far exceeds any thing the Professors of the present day will I believe ever attempt to do. When we arrived at Castello Branco we halted a day, and therefore had time to prepare our operations. The French had somewhat more than two regiments in Alcantara and its neighbourhood, and this is the essential point for observation, in proof of the superiority of our powers to those enjoyed at present. I believe the principal animal magnetisers do not now claim a power in intensity or force more than equal to twenty or thirty feet, although they can operate on a lady who is duly predisposed at that distance through a door two inches thick, but then only when the magnetiser has his whole mind intently engaged in this one object. It so happened that the minds of the French were as much engaged upon us as we were upon them, and the effect was remarkable, for instead of being bounded by 20 or 30 feet, it extended to as many miles, with a mountain or two between us, and the Tagus to boot, which ought to be as good as a door at any time. Each party turned out as nearly as possible on the second day at the same hour after dinner, drums beating, colors flying, and all prepared for immediate action. No enemy appeared, the uneasiness arising from the extraordinary magnetic influence, which were so liberally infusing into each other, now took complete effect, and both parties simultaneously turned round and walked off, being quite unable to stand it any longer. The British never stopped until they arrived at Abrantes. The French took refuge in Truxillo, (pronounce that x as a letter intermediate between g and h,) and each party only felt themselves free from magnetic influence when they were 150 miles asunder. The day we started, it poured as if the heavens had opened all their watery stores upon us, and no poor devils were ever in a more wretched state than we were on reaching Cernados, one of the most deplorable villages in Portugal. We had intended to cross the Tagus at Villa Velba, but the river had greatly filled in the course of the evening and it was not certain we could cross on the small flying bridge which existed in those days. Under these circumstances we turned short to our left next morning before daylight, and took to the mountains by a bridle road or track, and never stopped until sunset. The bullock cars could make little of this, and half way they were brought to a standstill. What was to be done? After due deliberation it was thought desirable to burn the carts and the baggage. This consisted principally of 20 complete sets of bedding packed in four bales in the hardest manner, and a trunk containing the commanding officer's best suit of clothes, which had no business there. At midnight the conflagration took place. I learned afterwards from a French officer that they were walking off as fast as they could at the same time, under the magnetic influence we were imparting to them, when they saw the light of this fire which they took for a beacon to alarm the country people, in order that they might cut off some of the stragglers. Once he said it seemed to blaze up for a minute or two with more than ordinary brilliancy, which added to their confusion; and he asked what we had done to cause this effect, and did not seem pleased, when I assured him I could only attribute it to the indignant combustion of the colonel's best pair of white leather breeches. Animal magnetism can, you see, do greater things in Portugal than in London.

On Compound and Gun-shot Fractures in the Thigh.

Delivered Jan. 6, 1838.

I approach the subject of compound and gun-shot fractures of the thigh with greater diffidence than I do any other in surgery, not from want of experience, or, I trust, of observation on that experience, without which it is of no value, but from the unfortunate nature of the results, Nothing is more easy than to cut this difficulty, by saying, cut off the limb; but amputation is scarcely a less miserable result, and it is at all times, even when successful, which in such cases is very doubtful, an opprobrium to surgery.

The best thing I can do, I believe, gentlemen, is to read you what I have written in my work on gun-shot wounds, &c. &c., and then give you the further treatment.

In accidents in civil life, the bone is in general merely broken across, or obliquely with the point thrust through the soft parts. In gun-shot wounds, it is generally the reverse, being much shattered, and not appearing through the integuments; depending very much on the part of the bone injured, and the manner in which it has been struck by the ball.

If a musket-ball, in passing through the thigh, merely touch the bone, it may fracture it directly across, but it will generally do it obliquely, so as to cause some little shortening of the limb when cured under the most attentive treatment; but when a ball strikes the shaft or body of the femur, it shatters the bone in every direction, although it may not pass through: it does not merely break off four or five small pieces, which may be taken away by cutting down upon the bone, but it breaks it into large pieces, generally oblique and very pointed, that retain their attachment to the muscles inserted into them. The fractures extend far above and below the immediate part struck by the ball; and, as far as depends upon my information from the examination of limbs that were amputated, further downwards than upwards; so that from a fracture in the middle of the thigh, I have often seen fissures extend into the condyles, and cause ulceration of the cartilages of the knee-joint; but they seldom extend upwards as high as the trochanters. Of such cases, there can be no doubt as to the propriety of immediate amputation; but if the fracture did not communicate with the joint, when the middle of the body of the bone is broken into several large pieces, it is better to amputate before the inflammatory symptoms come on, than afterwards; for it must then be done higher up, or probably cannot be done at all.

The danger and difficulty of cure attendant on fractures of the femur from gun-shot wounds, depend much on the part of the bone injured; and, in the consideration of these circumstances, it will be useful to divide it into five parts. Of these, the head and neck included in the capsular ligament may be considered the first, the body of the bone, which may be divided into three parts, and the spongy portion of the lower end of the bone exterior to the capsular ligament, forming the fifth part. Of these, the fractures of the first kind are, I believe, always ultimately fatal, although life may be prolonged for some time. The upper third of the body of the bone, if badly fractured, generally causes death at the end of six or eight weeks of acute suffering. I have seen few escape, and then not with a useful limb, that had been badly fractured in the middle part. Fractures of the lower or fifth division are in the next degree dangerous, as they generally affect the joint: and the least dangerous are fractures of the lower third of the body of the bone. Of these even I do not mean to conceal, that when there is much shattered bone, the danger is great; so that a fractured thigh by gun-shot, even without particular injury of the soft parts, is one of the most dangerous kind of wounds that can occur.

"Upon a review of the many cases I have seen, I do not believe that more than one-sixth recovered so as to have useful limbs; two-thirds of the whole died, either with or without amputation; and the limbs of the remaining sixth were not only nearly useless, but a cause of much uneasiness to them for the remainder of their lives; they were indeed much in the same state at Bilguer's invalids, who were incapable of any employment, civil or military.

"It would be an interesting, and I am sure a useful inquiry, to examine the lists, or cause lists to be made, of British soldiers who receive pensions on account of incapability for service, from wounds with fracture of the thigh-bone; and I am satisfied the number would be small, although the accident is not infrequent; and of the number thus receiving pensions, I will venture to predict, it will be found that in seven-eighths the bone was broken below the middle of the thigh.

"After the battle of Toulouse, forty-three of the best of the fractures of the thigh were attempted to be saved; having been carried from the field of battle but a very short distance, well accommodated in hospital, and attended for the most part with great care, and surgical attention: of this number, thirteen died; twelve were amputated secondarily, of whom seven died; and eighteen retained their limbs. Of these eighteen cases, the state, three months after the battle, was as follows: 'Five only can be considered well, or as using their limbs. Two more think their limbs more valuable (although not very serviceable) than a wooden leg: and the remaining eleven wish they had suffered amputation at first, as they are not likely to do well; and if they eventually recover, which in many is doubtful, the limb will be distorted and unserviceable.' Of two officers with fracture of the femur, one died in the hands of the French surgeons, in whose charge he fell during the action, and by whom he was skilfully treated; the other, with the greatest possible attention and care, has preserved a limb, which I now think he wishes exchanged for a wooden leg.

"In the five successful cases, the injury was, in all, at or below the middle of the thigh. In the thirteen others, who retained their limbs, the injury was not above the middle third; and of those who died unamputated, several were near, or in the upper third, and either died before the proper period for amputation, or were not ultimately in a state to undergo the operation. Of the seven amputations that died, two were at the little trochanter by the flap operation, and the others, for the most part, unfavourable cases. In one case only was the head or neck of the bone fractured by a musket-ball, which had entered on the outer and back part, and went through in front. This man was not pointed out to me for some days, and was not at that time, or ever afterwards, in a state to render amputation likely to be successful. He lived however for two months; and, from the dreadful sufferings he endured, I always regretted amputation at the hip-joint had not been performed at first.

"After other battles, in which I have had the care of fractures of the femur, the success has not been so great, but they were generally under less advantageous circumstances; and from the sum of knowledge thus acquired on many occasions, I am induced to believe, that in this injury, amputation ought to be a more frequent operation than it is at present; and I think I am borne out in this supposition by the above statements, and by the general opinion of my brethren formed during the Peninsular war.

"I think it will also be conceded by those who are disposed to allow the advantage and safety of primary operations, that if the thirty-six of the forty-three who died, and have only partially recovered, had been amputated on the first day, the country would have had at least twenty-five stout men, able, for the most part, to support themselves by their labour, instead of five, or, at most, ten, who will not be entirely dependent upon their pensions and parishes for their subsistence.

"As secondary amputation is totally inadequate to produce this effect, the patient should be carefully examined, and amputation performed, when necessary, on the field of battle. If the heat of the weather be great, as in the Summer of the Peninsula, Asia, or America, the hospital to which the patient must be removed at some distance, the means of conveyance bad, or the wounded very numerous, it is better to amputate, even in a doubtful case; and if the surgeon, by following this rule, should even cut off a limb that might have been saved, he will be amply compensated by the preservation of a number of lives, that would be lost by delay under precisely similar circumstances.

"In regard to officers, some little more latitude is to be granted than the above suggestions allow; for, as they can often procure cool apartments in Summer, good conveyance, plentiful attendance, and the best professional advice, all of which are occasionally wanting to soldiers, cases of disease and injury will always succeed in a greater proportion with them than with private soldiers in hospital; but not in so great a degree as to counteract my opinions in cases that are really serious.

"It is a difficult thing to persuade a surgeon unaccustomed to the treatment of gun-shot wounds, or the patient himself, when he sees but a small wound, that amputation is necessary; and as cases of success have been heard of by all, whilst the fatal ones are buried in oblivion, many officers will not choose to submit to it; they will rather hazard their future health and happiness, and undergo the most dreadful sufferings, for months, to save a limb, which, when cured, and their wishes are obtained as far as circumstances will permit, they find a useless burthen, and a source of incovenience for the rest of their lives."

Wounds from musket-balls, injuring the lower part of the bone, without communicating with the joint, do not require primary amputation; they are proper cases for delay, unless there be great destruction of parts.

In order to attempt, with a reasonable hope of success, the management of a compound or gun-shot fractures of the thigh, it is desirable the patient should be placed on a proper bedsread, of sufficient height from the ground to render him easy of access, and capable of affording him every necessary comfort and accommodation without moving. This will be best accomplished by a bedstead and mattras, invented by the late Mr. Gardiner and myself in 1815. The one he died upon in 1817 is now at Mr. Knox's 107, Jermyn-street. Mr. Gardiner, if alive, would have been now Lord Mountjoy, and I am disposed to call the bedstead by that name to distinguish it from all others. It is so absolutely necessary in case of diseased hip and spine, of loss of the use of the lower limbs, of injury of the pelvis, as well as in fractures, that one or more ought, in my opinion, to be placed in every permanent hospital in the British dominions. There is one now in use in the Westminister Hospital, and it has been the comfort and happiness, as well as the saviour, of more than one person who has lain upon it. I am aware of the difficulty of carrying these bedsteads to the scene of action in a distant country; I am equally aware of the expense: but Great Britain must give up all her pretensions to humanity, if she allows either of these trifling obstacles to prevent her brave defenders from having an absolutely necessary assistance for their recovery from their injuries, or for the safety of their lives. A bedstead, mattrass, &c., complete, may be easily bought, packed, and conveyed to the most distant of our possessions, for ten pounds; and six of them may be carried upon any common cart to wherever they are wanted. If a second inclined plane and another set of bedding are added to the box, it will cost thirteen pounds, and will answer for two fractures. The battle of Toulouse gave 43 fractures of the thigh, out of 1242 wounded, which were attempted to be saved, and this may be considered as a fair average; and I should say that a corps of 10,000 men ought to be supplied with a reserve store of at least 20 of these double-bedsteads, at an expense, perhaps, of £260. In Spain and France we had nothing of the kind; the consequence was, that many suffered intolerable torments, that might have been greatly alleviated, and many lost their lives. Not only that, many could not be attended to, from the delay and the difficulty of assisting them on the ground; and it is only necessary to have seen the horrible sufferings they endured, and which might have been relieved, to speak strongly, as I do to you. I wish it to be received as a voice from the dead, calling upon the gentlemen of England, upon this, and upon all other points, to do one of two things—to send their sons forth to fight, with every hope, and every surety that if they fall wounded in the service of their country, they will have every attention and comfort afforded them that the talent, the capability, and the money of the country can bestow; or not to send them to fight at all. The Duke of Wellington, in his despatches (10th vol.), has expressed his opinion of the late Medical Board in no measured terms; but the present one, with all the knowledge and all the persevering labour of its able Chief, can do very little better, as far as regards the exigencies of the sick and wounded soldier, unless assisted by the Treasury of the country in a very different manner to what has hitherto been done. I beg I may not be misunderstood. I do not want more pay for the medical officers of the army, the Government has acted liberally towards them in that respect; but I want almost every thing else, both for them and for the wounded. The misfortune is, that things in this country do not go through one channel, and unless one or two powerful men, or several smaller ones, will take up a question of this kind, it never can meet with the consideration it requires and deserves, in all the various quarters with which it is connected.

The position of a fractured femur must be essentially of one kind, viz., straight; for it is impossible to keep a man's thigh in the bent position on the side, and himself in the same situation. No power that is likely to be employed can prevent his turning on his back, and the union, if it takes place at all, must then be at an angle. The best position forwards, or on an inclined plane, is defective, inasmuch as the matter, which must necessarily be secreted in abundance, will gravitate backwards, in spite of every care to prevent it; and in many instances will form abscesses towards the pelvis, instead of always running directly outwards by a fair, and unobstructed passage. When a proper bedstead is used, a slightly inclined plane may be tried at a certain later period of time, and in some few cases the body of the patient may be raised even to the erect position. This must be done however with care; the object is to take off the action of the two muscles inserted into the little trochanter, which raise the upper end of the fractured bone upwards and outwards; which you will invariably see take place after every amputation as high as the middle of the thigh. In simple fractures position will do this, and the inclined plane, whether by splints or other machinery, will affect it very well; but as an inclined plane can be rarely used with advantage in gun-shot fractures, the rising end of bone must be kept in its place principally by raising the body or by proper and well-directed padding; and its inclination outwards must be met by a similar direction of the lower part of the limb. The advantages I have alluded to, the army never hitherto had, nor any proper splints, nor any thing which could be called proper for the treatment of such fractures; but they will all, I feel assured, be in future supplied, and you will have the opportunity of ascertaining facts upon this point which will be of the greatest advantage to mankind. I point out how far we have gone before you; it is for you to shew by how much you can exceed us.

Aware, from what I have said, of the nature of a gun-shot fracture in the arm, you know what you have to expect in the thigh, and must endeavour to meet it. First, by the removal of splinters, and extraneous bodies. The bone being larger than that of the arm, the splinters are often more numerous and larger, upon which depends the question of amputation; but that having been decided in the negative, they are to be treated in a similar manner, and the splints, and extraneous bodies must be as far as possible removed. It must be borne in mind that they can never (I shall give the general rule) be all remove at once, or at the first, or even succeeding examinations; and it follows, that as they cannot come away of themselves, except they are small, incisions must be made for their removal, and before any quantity of new bone can be formed around them. This is a difficult and very interesting point of practice, which observation will render more clear to you. It is sometimes neglected, from the great thickness of the muscle of the thigh, and from the wound having been on the inside, near the great vessels, so as to render an incision of sufficient size in some degree dangerous. The thickness of the muscles does not offer a sufficient reason for avoiding an incision; and if the situation of the bone on the outside of the thigh be clearly known, a little reflection will shew that it can be got at easily in that part, if it cannot in another. The bone I now shew you is the crooked one I have alluded to from Albuera. It has united at an angle, with a deplorable twist, on account of the wrong position in which the patient lay, and from the want of every proper mass. This is, however, the least part of the evil; for a man can live with a crooked thigh; but the new formed bone is also obvious, and in various parts it hems in or surrounds several splints of old bone, which are thin and small, although long, and could not get out. They therefore kept up an irritation which at last killed the patient at Elvas. The best cure fractured thigh I know of from Albuhera is Lord Ventry's It was broken rather above the middle, but he is lame, and it even now gives him some trouble. The thigh-bone I now shew you is from Waterloo; it is a much better one, nearly straight, and the splinters were nearly all removed; but it killed the patient nevertheless. If he had had all the comfort and accommodations he would I hope have had by modern appliances, he might have recovered. The third thigh-bone I shew you has evidently been amputated high up. It is one that was cut off after the battle of Vittoria. The bones have united by a mass of new formed ossific matter, which is hollowed like a scooped-out orange rind. There is a long splinter of old dead bone locked in by it, and lying across, which kept up irritation, and ultimately led to amputation. It should have been removed at an early period. Even amputation, under these circumstances, does not always give relief, or save life; for, independently of the hazard of this operation high in the thigh, to which I have sufficiently alluded, the femur above the injury is not always sound. It is suffering from some irritation of its internal membrane, and the saw only adds an injury, which causes an increase of mischief. The internal membrane dies, and a necrosis takes place for several inches upwards, even as high as the small trochanter. Here are three specimens of this disease after amputation. You see the sawn part quite sharp at its edge, shewing that it lost its life forward, that the absorbents did not act at all in rounding it off, as they do in successful cases. The five or six inches above are in the rough worm-eaten state of a sequestrum. It is the old bone, which has come out of a new case, formed by the periosteum around it. Although this state of evil occurs after gun-shot fractures, I am aware that it can also take place after amputation from more common causes; and I have therefore warned you against the old practice of scraping the periosteum from off the bone at the part where you are going to saw it, or of making two or more jags with the saw in consequence of its slipping. I have told you that 70 to 80 seconds is enough of time for cutting off a thigh; but then you must know how to do it. Sixteen seconds gain of time to you in sawing a bone, may be sixteen months of misery to your patient; let time therefore be a secondary consideration. If you think, gentlemen, you can saw bones by intuition, you will err; it requires practice, like every thing else. If you wish to learn how to saw the bones of living men in an artistlike manner, buy a couple of broomsticks, and saw them off by inches, under the directions I have given for the management of the saw; you will then be qualified to try your hands on dead bones, and after that on living ones.

It is possible to succeed in saving thighs fractured any where except at their extremities, by attention to all these things, if you have at hand all the necessary appliances of surgery; but if you have not, and the sufferer must be kept in a constant state of motion and of irritation, you had better cut off his thigh; or, as a brave, but unfortunate, French officer, said to me at Salamanca—Pray Sir, kill me in any way you please, but do not, in mercy, let me die by inches.

Splints for fractured thighs must be of three kinds, with proper pads for all of them, and the material to make the pads should accompany them in considerable quantity.—1. Long Dessault splints improved. 2. Amesbury's leg and thigh splints, to be used straight for the thigh. 3. Common solid wood and tin splints. 4. Ordinary one yards roll-up measures to take the length of the thigh and leg from time to time; although, in compound fractures of the thigh, extension is of little or no use at any time, and of none after the first fortnight or three weeks; on account of the consolidation, and thickening of the soft parts, which after that time do not admit of any yielding, although the bones may not be united by ossific matter.

On the Excision of the Head of the Thigh-bone.

Delivered January 13th, 1838.

When the head or neck of the femur have been injured by musket-balls, the patient has never escaped with life to my knowledge, unless after amputation. He does not die however immediately, but linger for two, three, or even more months, and at last sinks worn out by suffering. The bone I now shew you is that I removed in my successful amputation at the hip-joint after Waterloo at Brussels. The ball struck the neck immediately below the head, and went through and out behind; the bone is split nearly perpendicular, and is separated from the shaft by a triangular point or apex exactly two inches below the small trochanter. The great trochanter and the rest of the shaft were not broken. I am not sure that if the head and broken piece had been removed and the shaft sawn straight, he might not have recovered; as he can however walk very well, I suppose he is as well satisfied that he did not take the chance. There was one other case at Brussels, in which I wished to do this operation. I urged it on the man, a French soldier, for several days, but he refused until finding himself sinking, when he consented. It was too late; when I gently stated this to him, he thanked me, a tear for the moment glistened in his eye, he waved his hand once more over his head, and cried out, *Vive l' Empereur.* He died a few hours afterwards.

The bone I now shew you is one to which I wish to draw your particular attention. The ball entered high up on the thigh near the groin, and lodged in the neck of the thigh-bone; it gave rise to ulceration of that part, of the head, and of the shaft near it, but it did not break or splinter the bone itself; the man however died. The removal of the ball alone would not have saved him, but I am satisfied the removal of the head and neck of the femur might have given him a better chance than he had by doing nothing.

The third and fourth preparation I now lay before you, shew a greater degree of mischief, and a large quantity of new-formed bone, indicating that the fracture had extended into the trochanters. In the fifth preparation, the fracture is too far below the head and neck of the bone to admit of any operation but that of amputation.

I have been long acquainted with a nobleman, who was sent to Lisbon by Mr. Hunter near 50 years ago for ulceration of the cartilage and head of the thigh-bone, which eventually was drawn out of the socket as the capsular ligament gave way, and has formed an attachment with the ilium. The joint is stiff, the leg is some three inches shorter, but he walks about on the toes of that side with no further inconvenience than the limp occasions.

Mr. White, may colleague at this hospital, removed the head and neck of the thigh-bone in a young person, by a very simple operation, after it had been dislocated by the same disease, because it was evidently causing great irritation, instead of forming a false joint as in the former case, and would eventually have found its way through the soft parts. The lad recovered.

A due consideration of these cases led me to think that if Nature could, by certain slow processes, arrive at such a happy result, it might be possible, in gun-shot fractures of the head and neck of the bone, to give her that assistance by art in effecting a cure which she has hitherto seemed unable to obtain without it. This assistance is the early removal of the head and neck of the bone by sawing it across immediately above the small trochanter in all cases in which the nature and extent of the injury will admit of such an operation. In the bone I now again shew you, and to which I have already drawn your particular attention, this might have been done with great ease by the surgeon, and I believe with little comparative suffering to the patient.

In order to do this operation with precision, the surgeon must make himself well acquainted with the anatomy of the parts by dissecting them himself. I have requested the demonstrators of anatomy in the school of the hospital, Messrs. Hancock and Hird, to prepare two limbs duly injected, to shew it to you. One is dissected so as to allow every part to be demonstrated and divided in the clearest manner. Mr. Hird will have the goodness to divide as I name them. Observe, in the first place, two things, the great trochanter, and the round head of the bone in its socket, which is directly below, and a little internal to the anterior superiorspinous process of the ilium. When the thigh is bent in the dissected state you see it rolling very distinctly; and in order to lay it bare for removal, the muscles, &c. around it must be divided. The first on the anterior and outer part is the tensor vaginæ femoris; you see Mr. Hird now dividing it; outside this the glutæus medius must be cut, going to be inserted into the upper and outer part of the top of the great trochanter; deeper and between these two last, you see the glutæus minimus winding forwards to be inserted into the anterior portion of the same part. Cut the great glutæus through backwards in a curve, and you see the insertions of four muscles at one part, viz. the pit or fossa immediately behind the great trochanter, (I now shew it to you in the dry bone;) these are the pyriformis, the gemelli reckoned as one muscle, the obturator externus and internus; they should all be cut through within half an inch to an inch from their insertion. The square muscle you see below them, running from the ischium to the inter-trochanteric line I now shew you is the quadratus femoris. It cannot be spared. The thigh-bone now rolls in Mr. Hird's hand easily, and you see the head moving in the socket on the back part where the small muscles were divided. He now opens into the joint with the greatest ease at this part, and by a little rotation of the knee inwards, the head of the thigh-bone is readily dislocated downwards and outwards, The round ligament, and the remainder of the capsular ligament, must now be divided, keeping the knife close to the bone. You have now every thing exposed that I should have wished to remove, and ready for the saw, in the particular case I have shewn you, and to which I have considered this operation so applicable. Let us pause a moment before we apply the saw. Two strong muscles are inserted into the small trochanter, the iliacus internus and psoas magnus, and I am desirous that this insertion should remain unhurt if the fracture should not extend below the little trochanter. It is not necessary to injure them, and they may be of great use afterwards if the operation should prove successful. If the neck of the bone is broken throgh, rotating the thigh as I have directed may not assist much in dislocating its head; but then, if the separation is complete, the separated piece can readily be detached, when the object will be easily attained. The sawing is as you see accomplished with the greatest ease. The arteries divided are all of small size; they are filled with red injection, yet you can scarcely see them, and they could not give any trouble, for the wound is so large as to give easy access to every part, and to admit of any bleeding vessel being tied without any difficulty. The round ligament should be cut off close to the socket, and any portion of the capsular ligament which can be quickly removed with it, but no time should be lost in trying to remove the cartilaginous cavity itself, which will be gradually absorbed. The sawn end of the femur should now be brought up into the cavity, and kept there if possible with the hope that it may become rounded, and adhere by a new-formed ligamentous structure in the same manner as the end of the humerus does to the glenoid cavity of the scapula, when similarly treated. The edges of the wound are then to be brought in apposition, and retained so by two or three sutures. The glutæus magnus slides over the trochanter major, having a bursa between them, and this part will not readily throw out healthy granulations; I am therefore less solicitous about the accuracy of the apposition of the edges at the under part through which the discharge will the more easily pass; the outside must however be supported by sticking-plaster and a compress to prevent any bagging, and to keep all parts in contact.

Let us now do the operation on the undissected opposite limb. The first cut through the skin or integuments and fascia lata should be a curved one, beginning just over the inner edge of the tensor vaginæ femoris muscle as you have seen on the other leg, curving downwards and outwards, so as to pass across the bone an inch at least below the trochanter major; when it should curve upwards to the extent of three inches or more, as the size of the limb may require. This first incision should when complete, divide in addition to the integuments, the fascia lata, the tensor vaginæ femoris, the glutæus medius and minimus, and the great glutæus muscle. The flap thus formed must be raised or turned up by an assistant to enable you to get at and divide the parts below in the order I have named them before. You are not to stop to tie any bleeding vessel until the operation is finished, and little or no blood will be lost.

Let us pause again. You have just done one half the operation as to cutting, for removing the whole limb at the joint: and if you should now find that the bone is so much shattered in the shaft, that you cannot hope to save the limb, there is no difficulty in removing it. Place your long knife inside the bone, with the middle of its edge resting against the outer edge of the iliacus and psoas muscles, and at one firm cut of a strong hand let it cut its way inwards, forming an inner flap; your assistant steadily compressing the femoral artery against the bone above. The femoral artery and its great profunda will both be divided: you seize them with the finger and thumb of your left hand, and place a ligature, or assist in placing one on each branch with your right; or, if the trunk of the profunda should have been cut very short, you may tie the main trunk of the femoral. Let your ligature be a single thread of strong dentist's silk, with which I have successfully tied the common iliac, and you need not be afraid of its not holding fast, if you tie it reasonably tight. The idea usually entertained, that a great artery cannot be closed by the ordinary process of nature under a ligature, if a branch is given off near it, is, I believe, erroneous. I never placed reliance on this opinion, and I now shew you the common iliac artery of one of the two cases in which I tied it successfully, the patient dying a year afterwards, and you may see it is tied about an inch from the aorta, and was pervious on each side of the ligature, which has closed the vessel to no greater extent than its own width, proving all the facts I have mentioned to you so frequently on this subject. As to the smaller vessels, they will give you no trouble, being easily commanded, each by the point of a finger.

I have not done this operation on a living man, but *you must do it*, and I am sure you will in the end succeed. You ought not to be allowed to take out a limb at the hip-joint, unless the head and neck of the thigh-bone are injured; and you ought not to take it out if they are, unless the shaft of the thigh-bone is irreparably implicated also. In all such cases the inspector-general should see the bones, as well as have the other particulars of the case. I give, gentlemen, the experience of former times, matured by the practice of twenty years in this hospital, and by a due consideration of all that has been done by my contemporaries. It is for you to surpass us, to shew that surgery is never stationary, and to prove that it is as much a science as an art.

The fifth portion of the femur or that which forms its lower end and condyles, entering into the composition of the knee-joint, is the least amenable to surgical treatment. In the present state of our knowledge, and after the trials which have been already made in vain, I do not recommend the excision of the knee-joint, and amputation is then the sole resource, in cases which are incurable by ordinary means. I have endeavoured to bring under your observation those cases which generally require amputation when the knee-joint is injured, and those in which an attempt ought to be made to save the limb. See page 379, *et seq.* of my work on gun-shot wounds, to which I must refer. The lower part of the femur, just above the condyles, admits of a particular injury, from its softness, which does not occur at any other part. A ball may pass directly through, without causing any other injury, or scarcely any longitudinal fracture; so that the sufferer walks after it as if the bone had not been broken. Captain St. Pol, of the Fusiliers, was wounded in this manner by a musket-ball at the foot of the great breach, on the night of the assault of Badajos. You will find his case, terminating in death, page 237 of my work on wounded arteries, to which I refer you. The ball struck him in the ham, passed through the thigh-bone in the middle, just above and between the condyles, and fell into the cavity of the joint, from whence it was removed. The hole in the bone was only large enough to allow the ball to pass through, and a small fissure extended upwards from it for above three inches. He died from mortification, the popliteal artery having been also divided. I fear he lost his life from excess of kindness; for the surgeons of his regiment were much attached to him, and I knew him very well, and yielded to their solicitations to try and save his limb, or at least give him a chance for a secondary amputation. They did this against their better judgment, and so did I. It was the last case in the Peninsula in which I did not insist on immediate amputation, on the occurrence of gangrene after a wounded artery, although I admit it was not the last in the army, and that one even of a similar nature occurred at Toulouse, but against my express orders. His Majesty Louis Philipe, King of the French, when he was in England, during the French Revolution, studied mathematics it is said, with great success, and taught them in a very satisfactory manner. Continual occupation in squaring a circle, however, could not but be onerous; it was "toujours perdrix;" and His Majesty relaxed a little occasionally in other less severe studies of nature, his capabilities in which, and in calculating nativities, were soon exemplified, it is said, by the appearance of poor St. Pol. I do not know whether he was like him, but he was a very handsome, agreeable young man, who conducted himself always like a gentleman and a soldier, and died much lamented.

On the subject of fractures of the leg I must refer you once more to my work on wounds, begging you to recollect that all I have said in these lectures with reference to the arm applies as much in all practical points of surgery to the leg. The bones are equally exposed, the vessels are equally at command and under control; and a man should hazard a great deal before he should lose his leg, if he has a good constitution. I do not say to you that you should never amputate a man's leg on account of a musket-shot, which fractures the bones, injures the arteries, and does other mischief; but I do say that it is a very great extent of mischief alone that authorizes such a proceeding. You must read the passages I have written on this subject, and from page 257 to 261 in my work on wounded arteries, and operate as directed from page 384 to 388. I am aware that these things are but little taught in London, or, if they are taught, they are little attended to; but they are essential, and every man ought to know them, and he who does not is not qualified to hold Her Majesty's commission in the public service of the country. When I say these things are little attended to, I do so from finding it to be the fact in the examinations at the College of Surgeons. One of the last men I examined on these points was himself what is called a grinder, viz,, a gentleman who crams others for the examiners, as old wives in the country do turkeys before Christmas for the Cocknies. He knew little about the matter; but as I am always particularly lenient upon any point which I consider peculiarly my own, I let him examine me, instead of my examining him. It did just as well, and I dare say he will remember it longer.

When balls impinge with sufficient force to stick in a bone without splitting it, or go directly through, a great deal more attention should be paid to them than was generally given during the Peninsular war. This is one of the weak points on which we wanted another campaign in the South of France to perfect us; and it is therefore one to which you, gentlemen, if there should be, and when there shall be, another war, must attend to particularly. They should always be removed if possible; certainly so if the approach to them does not cause more danger than leaving the ball to the operations of nature. I have known balls stick in bones, and become covered up, and give no trouble; but I have very, very much more frequently seen the reverse. When a surgeon is acquainted with the anatomy of the parts, he is not afraid of making an incision of a sufficient size to enable him to feel, and perhaps to see the ball. If it is deeply imbedded, a trephine must be applied over it of such size as will include a common ball a little flattened. Where it sticks without being imbedded, a small chissel, straight or curved at the end, or a hook used as a lever, may often be got under it; but the judgment and ingenuity of the surgeon must be exercised on such occasions. Suppose a man to have received a ball, which sticks in the outside of the lower end of the femur above the joint: is it better to leave this to the efforts of nature, or to take it out? If left alone, the man will, in all probability, have an open wound for years, suffer much occasional pain, have an abscess form now and then, and always have a reminding monitor of his wound along with him. If a sufficient incision, on the contrary, be made at first, on the day he receives the shot, through the vastus externus, down to the bone, and extending upwards far enough so as to allow it to be seen, whilst the parts are not adhering, and will separate easily, the trephine may be applied without difficulty, or the ball may be elevated and removed. The bone will not be diseased, and will in general recover from the injury without difficulty, and any apparently splintered or injured parts may be at once removed. The man will soon get well, and be less lame than if no operation had been done.

Suppose the ball has struck the pelvis, or hip, just above the acetabulum, and sticks—what ought to be done? Make an incision upwards and outwards, not inwards, and of sufficient length to enable you to feel it easily, if not to see it. You must then remove it by similar processes, recollecting the thickness of the bones of the pelvis, and where they are too thin for much use of the trephine. Of balls sticking in the bones of the cranium we shall speak in our next lecture.

I cannot conclude this subject of injured bones without drawing your attention to three cases now in the hospital, two under Mr. White's care, one under mine. The first was a bad case of ulceration of the tibia, which had gone on for three years, and seemed likely to go on for ever, unless some more vigorous mode of treatment was had recourse to than had hitherto been adopted. Mr. White applied one part of the chloride of zinc, mixed with two parts of the sulphate of lime, made into a paste with water. The diseased bone was in part destroyed by this caustic, and a thick scale, the size of the paste, was separated, and came off. The first application was made on the 14th of October, and a second was had recourse to on the 7th of November, with the same effect, the scale of bone separating in fifteen days. The ulcer is nearly healed, and the man is almost well. In the second case, the tibia had been diseased for 31 years; the mischief was so great that the man begged to have his leg cut off. The repeated application of this remedy has been so effectual as to leave no doubt in my mind of its great utility in similar but less extensive injuries, for although it has rendered him a very essential service, I am not quite certain it will be able to effect cure, nevertheless, it will prevent I have no doubt, the necessity for amputation. In the third case, which is that of a woman, the injury of recent date, and I have applied it solely for the purpose of causing the separation of a thicker scale of bone than is exfoliated by the unassisted operation of nature, and I recommend it to your attention in cases of ulceration of bone, commonly called caries, as one from which you will find the greatest advantage.

ON EXCISION OF THE ELBOW-JOINT.

Delivered February 10, 1838.

I HAVE pointed out to you so distinctly the manner of excising the head of the humerus, that I do not think it necessary to notice it here. The excision of the elbow-joint I think it right to demonstrate, and to describe to you more clearly, so that you may find no difficulty in doing it.

The cases which require this operation are those in which the articulating ends of the humerus, radius and ulna, are wholly or in part so much injured, that little or no hope remains of a successful result. These cases have been usually submitted to amputation, on account of serious injuries of joints being rarely cured. The object of excision is to save the fore-arm, or at least to give the patient a chance of doing so; and the situation of the shot-hole or holes does not signify much as to the manner of operating. The principal point regulating the proceeding is to preserve the nerves entire; and the most important one likely to be injured is the ulnar. To avoid this, which lies between the olecranon and the internal condyle, but nearer to the inner condyle, to which it may be considered to be affixed in passing by; a common straight, but strong-pointed knife is to be pushed into the joint, immediately above and close to the olecranon process, exactly at its inner edge, near to, but at a safe distance from the ulnar nerve. The incision, thus begun, is to be carried outwardly to the external part of the humerus, dividing thereby the tendinous insertion of the triceps. From the end of this transverse incision a cut is to be made perpendicularly upwards and downwards, about an inch and a half each way, and the same is to be done at the other end of the transverse cut. The whole will now resemble the letter H, and the two flaps thus formed must be turned up and down. The olecranon may now be readily sawn off, with the great sigmoid cavity of the ulna, and the coronoid process, which must be separated from its connexion with the brachialis internus muscle which is inserted into it. Before this is done the ulnar nerve must be carefully separated from its attachments and turned aside that it may not be injured. This exposes the joint effectually; and the head of the radius may now be cut through by the saw, or large scissors in cases of old standing disease, and separated from the lateral ligament and the humerus, care being taken not to cut, if possible, the insertion of the biceps into its tubercle. The articulating extremity of the humerus ought now to be pushed through the wound, and the broken end sawn off or removed, so as to leave it quite smooth. The brachial artery and median nerve are out of all reasonable distance for injury, and to prevent the possibility of its occurrence, a knife or a spatula may be placed underneath, close to the bone and quite across, before the saw is applied; and any vessel which bleeds freely may be tied, although it is probable the hæmorrhage will cease on the application of cold water. The articulating cartilaginous broken ends of the bones having been thus removed, and the hæmorrhage having ceased, the fore-arm to be bent, and the ends of the radius and ulna are to be brought in apposition with the extremity of the humerus. The incisions are to be brought together by stitches and sticking-plaster, duly supported by compress and bandange. Mr. Syme, who has paid great attention to, and has earnestly recommended this operation, strongly advises that strict attention should be paid to procure union, if possible, of the transverse incision, just above the olecranon; for a broad cicatrix interferes with the motion of the joint, a reasonable degree of which is always to be expected in a successful case. The arm should be duly supported by a proper sling. As the shot-holes must remain open, any discharge of blood or serum which takes place will readily pass through them. The first dressing should be early changed, and the incision kept in due apposition, so as to offer every chance of union; but I do not think this of so much importance as has been attached to it. Passive motion should be early given to the parts, so as to favor the formation of a false joint; but this should be carefully and moderately done, lest too much excitement should take place, and a new inflammation be excited. A fixed or stiff joint is not to be desired, but if it cannot be avoided, it must be procured with the fore-arm at a right angle with the arm, when it will be most serviceable. The patient is best placed on his face on a bed or table, which renders the steps of the operation more convenient to the operator; you must also recollect that when the bones are diseased from inflammation of any kind, they become soft and are readily cut with the strong scissors, but when they are sound, as in cases of gun-shot wounds requiring this operation, they retain their natural hardness.

At San Antonio de Tojal, a circumstance occurred which it will be useful for those to know who may serve in hot countries. A soldier had suffered from bleeding for several days, in considerable quantity, from the mouth, which was perpetual; some was spit out with a little cough, some was swallowed, and neither medicine nor treatment seemed to have any effect upon him. He became greately emaciated, and his death appeared to be inevitably at hand, although I could not discover any particular disease about him. On visiting the hospital early in the morning, I inquired if he was dead, and was astonished at being told he had been quite well for two hours, and intended to live, for that he had coughed up a leech, which there could be no doubt was the cause of the bleeding, inasmuch as it had ceased from that moment. The man rapidly recovered. I was quite aware that in warm countries, in which leeches prevail, they are readily taken up by men and horses in drinking out of puddles, as thirsty animals, whether bipeds or quadrupeds, will constantly do. They are usually what are called horse-leeches, or of that kind which hold on and suck at one end, and discharge the blood at the other; but they commonly stick about the lips, mouth, and throat, both in men and horses, from whence they are readily removed by the finger or forceps. When they get above or behind the palate, they are still usually discovered with a little trouble; and when they could not, I never before or afterwards found much difficulty in dislodging them with strong salt and water injected through the nose, which, by its own virtue, and that of vomiting, had the desired effect. Whether this leech was in that place or not I do not know, but it certainly did all but kill the man.

Dr. Robb gave me the particulars of a case, which was afterwards confirmed by Mr. Maling, who said he saw it, which occurred in the light division, and nearly killed a man, who had been drinking out of a puddle, or out of a canteen filled from one, in a more extraordinary manner. The man declared he felt something move in his stomach the instant he had drank, and from that moment his torments were unceasing, both from pain and from the alarm he felt at distinctly perceiving something trotting up and down his stomach. The man became pale, wan, and miserable, and would have died, in spite of all the means employed for his relief, if he had not one day, at the end of about three weeks, vomited up a living animal, the cause of all his misery. The case is so well attested by the medical officers, who saw the animal before it died, that it cannot be disputed. They say it had four feet and long tail, and called it a salamander, I presume from no medicine having had any effect upon it, rather than from its really deserving that name. It was so large that it nearly choked the man in coming up, so that he was quite satisfied it had grown considerably after he had swallowed it, and it was admitted by all who saw it that if it had not, it could not have been swallowed without as much difficulty as was experienced in bringing it up.

I have already alluded to a little adventure we had on the road to Oporto, when we marched all night to surprise the French at Albergaria Nova. This we did, and I got some of the breakfast which was preparing for them; but we did not on the whole distinguish ourselves much after daylight. The wounded at this place, and at Grijon, passed under my observation, but gave nothing of importance; and I was not so fortunate as to gain much at the taking of Oporto, in professional information. We rather, if any thing, retrograded. The French had collected all the boats on their, the northern side of the river, and apparently considered them so secure, as not to think it necessary to place a sufficient guard over them. The consequence was, that soon after the British troops reached the southern bank of the Douro in Villa Nova, the suburb opposite Oporto, one boat was loosed and brought over. The soldiers immediately embarked, crossed, and brought back others, amidst the shouts and vivas of the natives. Sir J. Sherbrooke soon followed, with the whole 29th regiment; and the Portuguese boatmen having procured more boats, ferried me over with my horse. The alarm was perfect. The French, who appear not to have suspected such an accident, fled, leaving horses, mules, and baggage in all directions; every one took to his horse or his heels, and no one thought he could get from Oporto fast enough.

The inhabitants seemed afraid to touch any thing themselves, but called out to us to seize every horse and baggage-mule we saw as French. Being the only officer on horseback, I could ride about and take my choice of lots of loaded horses and mules, but I was much too proud to take possession of three or four mules with their baggage, It was not yet considered officer-like to deal in baggage, and so I occupied my time looking for some riding horses, until I lost the British, and was overtaken by Sir J. Milley Doyle at the head of the 16th Portuguese, looking for the English. I offered to shew him the way, as they were only a little before us, and placed myself at his side at the head of his regiment. On turning a corner, I shewed him the 29th Grenadiers, drawn up in line on the rising ground at the end of the road. They as soon perceived us, and after a minute or two, I saw Sir J. Sherbrooke himself face the Grenadier company towards us, and to my astonishment, they very quietly made ready as if on parade. Sir John and the Portuguese called out it was all over with them, and I thought so myself, for, knowing the old grenadiers very well, I took it for granted we were as good as dead. We were too far off to be heard in time, yet close enough to be shot, and it was quite plain they took us for French. I bethought me I had a red round jacket on under my blue undress coat, and as little time was to be lost, I stood up in my stirrups, and opened the blue coat as wide as possible, that none of the red one should be lost. The Grenadiers at this moment came to the present; I thought we were gone; when in an instant I saw them irregularly changing to the recover; they knew me, and had called out the doctor and the Portuguese. I never was so delighted in my life; and galloped up to them forthwith. Sir J. Sherbrooke saluted me with, By ——, Sir, if you had not shewn that red jacket, I would have sent you all in a second more to the devil. I knew Sir John very well, and hoped at all events he would have let us gone elsewhere, but he would not hear of it. No, Sir, said he, I would have sent you all to the devil; you should have gone there and no where else: and as it was well known that Sir John would always do what he said, as far as depended on him, there was nothing to be done but submit. From that day the Portuguese never went into action that I saw without a white band round the left arm. Shortly after this I accompanied the light troops to the front, and had a little skirmish with the French runaways, who were making their escape from the end of every street. Some of them brought out a gun, but on seeing us, and that the road was occupied, as it turned in front of us, they dismounted, and left the gun and the four mules that drew it. This I went to the left and seized, but what to do with a gun and four mules I did not know, more particularly after my failure in horse-stealing; so I settled the matter by taking possession of the best mule, which I carried off, and it served me very faithfully through the Talavera campaign.

Sir John Sherbrooke was a good-hearted man, although rather irascible, and was always willing to do a kind action. If the severity of physic and surgery would admit of a little descriptive episode, I would give you the appearance of the convents of Alisbaca and Batalha when we first saw them. It is better however to refer you to Mr. Beckford's book on Portugal, which is quite as characteristic as it is beautiful. He must have been a gastronome by his unbounded admiration of the kitchen of Alcobaca. It was however a good one, and the live fish did swim about in troughs, placed from one end to the other on the middle of the table, through which the river water constantly flowed; and the gardens were beautiful in the extreme. The padre guardien and the monks were always hospitable. They were obliged in those days by their charter to give a dinner and lodging to every traveller who passed and asked it, and about three half-pence on parting in the morning, and they received us with open arms on all occasions. The dinner was most joyous, the monarch and people of the respective nations were drunk with enthusiasm. I think I now see the jolly old fellows answering to our three times three with a thousand vivas; but they were not all old, and the young ones liked wine. On one occasion, when Sir J. Sherbrooke dined with them, one of the younger ones was also successful in making love; for the English ladies who accompanied the soldiers were not fastidious, and one of them could not resist the solicitations of the handsome monk. He was caught by the soldiers in a situation unhappily for him *pas douteuse*. They immediately placed him on one shutter and the lady on another, and marched them joyously round the cloisters, to the great amusement of the populace assembled at the convent to see the British. The next morning he had disappeared; his trial and punishment were summary; he had been sentenced to a slow death on bread and water, in a small stone cell, from which he was never to be withdrawn alive. The entreaties of Sir J. Sherbrooke prevailed not. The superior honestly admitted, that he would have forgiven the offence at the pressing entreaty of the English general, if it had not been so publicly manifested; but that the character of the order was at stake, and it must be as publicly known that the punishment had been exemplary. Sir John kept up a correspondence with the padre, and after the battle of Talavera, the old gentleman wrote to congratulate him, in more than the usual complimentary terms of the nation. He assured him that he and his order, as well as all Portugal, owed every thing to his gallantry, and that they must ever bless the day that brought him to Alcobaca. Sir John Sherbrooke, with the characteristic feeling of an English gentleman, took him at his word, and wrote him back that he placed such implicit reliance on all he had said as to his feelings towards him, that he could not refrain in reply from asking him for the pardon of the young offending monk as the only, and, at the same time, the greatest favor he could do him. Sir John Sherbrooke, when he told me this story, declared he had felt that day to be one of the happiest of his life, when he received a letter from the superior, enclosing one from the young man, thanking him for his life, and stating the horrible imprisonment he had undergone, and the utter destitution of hope in which he lay, when Sir John's interference and his pardon were announced to him.

BREACH OF ETIQUETTE IN TAKING FEES FROM MEDICAL MEN, BY DR. J. JOHNSON:

The following Letters, from many others of similar tendency, are submitted to the public, as a set-off against the assertion of one solitary female.

No. 1.—Dr. DAVIES.

My dear Sir,—Understanding that an attack has been made upon you in the pages of the Lancet by a physician at Cheltenham, for taking fees from medical men who have asked your advice, I beg leave to declare that I have had the pleasure of knowing you about seventeen or eighteen years, and that for the last eight or ten I have been in the habit of coming to London once or twice a year for the purpose of taking your advice in a most distressing and insiduous complaint. You have always received me with kindness, and by the most judicious advice and prescriptions have succeeded in warding off or lessening the attacks of the disease, and since I resigned the public situation I held at Chatham, and I retired to the neighbourhood of London, you have attended me at my own dwelling as if I had been a fee-giving patient, and have bestowed much valuable time and attention upon my case. All this you have done, I declare on my honour, without any fee or reward, or without any expectation of getting any, as far as I know. I further declare that I have sent you this letter as soon after I heard of the circumstance as possible, and without having had any communication with you whatever; and I beg of you to make whatever use of it you think proper in making the contents known to the world.

In my own name and for my wife and family I beg you to accept our grateful acknowledgments for your kindness and attention, and to believe that I remain with the most perfect esteem and gratitude, your most obliged and obedient servant,

W. A. DAVIES, M.D.
Late Surgeon to the Hon. East India
Company's Depot at Chatham.

7, Pelham Crescent, Fulham Road.
Wednesday, Nov. 15th, 1837.
To Dr. James Johnson, Suffolk Place

No. 2.—Dr. WILSON.

Dear Sir,—I have been much surprised by the assertions made in the letters of Dr. Dickson, which appeared in the Lancet relative to your accepting fees from your professional brethren.

As this accusation must be one calculated to give you much annoyance, I consider myself, from the common feelings of obligation, called upon to acknowledge that I could not have experienced greater attention than was paid to me by yourself during the time I had the Asiatic cholera, four years ago, at which time you found me from home, and a perfect stranger to you.

My friends can testify that on your part neither "fees" nor remuneration in any shape were expected or received.

I have the honour to be, dear Sir, your obliged and obedient servant
JAMES WILSON.

37, Sackville Street, Piccadilly,
Feb. 10th, 1838.

No. 3.—Mr. CHURCHILL.

16, Princes Street, Soho—29th Jan, 1838.

Dear Sir,—Your professional liberality having been made the topic of much public controversy, I feel called upon to offer my humble testimony by a reference to the following facts,

Having the honour to be intimately associated with the medical profession, my position informs me of much that is connected with medical men and medical news, and I have heard in such numerous instances medical men refer to professional assistance rendered by you in personal illness, that I had long looked upon you as the "medical man's physician."

But your professional liberality is *not* confined to the circle of your brethren, it takes a wider range. When suffering under indisposition, you saw me in consultation three times in fourteen hours, refusing to take a fee; and on the subsequent illness of my wife, you were constant in your attendance through a protracted illness, and when offered your fee, I well remember your reply:—"O no, we must consider you a chip of the block; I shall be happy to attend you or your family at any time."

I could refer to numerous names in proof of my first statement, and can add that of a non medical friend, to whom your advice has always been gratuitously available, simply from her literary reputation.

I have the honour to be, dear Sir, your faithful and obliged servant,

Dr. Johnson. JOHN CHURCHILL.

No. 4.—Mr. BISHOP.

Maidenhead, Nov. 13th.

My dear Sir,—How fallacious, and, I may add, dishonorable (because false), are the idle attacks made on you respecting your taking fees of medical men. I can bear testimony to the contrary with respect to myself; and on all occasions of my consulting you, either at your own house, or when visiting me at an hotel, have fees been altogether rejected; and moreover. whenever I have sent you a patient, to whom the fee was an object, you have uniformly and generously refused it.

Detraction carries with it its own punishment by reverberation on the author, and the inevitable exhibition of the virtue it attempts to repudiate.

I remain, dear Sir, your's very truly,

J. G. BISHOP.

No. 5.—Mr. DELPH.

Dear Sir,—I was much surprised to see in the Lancet of last week a most unwarrantable attack upon you respecting your manner of receiving fees. As a medical man who have known you for the last 20 years, I can safely affirm (upon oath if required), that as far as regards myself, my family, or any domestic concerning whom I may have consulted you, that you never *would receive* a *fee* in any shape, though often proffered.

I feel much pleasure in thus bearing testimony to the remark, which is almost in every on's mouth, "that Dr. Johnson will never be *rich by the exaction of fees from his patients,*" and think that Dr. Dickson, or any other man who brings so open a charge against a public character like yourself, should have substantial grounds to form his charges upon before he commits them to the eye of the public.

I am, dear Sir, very faithfully your's,

To Dr. J. Johnson, N. DELPH.
11, Alfred Place, St. George's Southwark.
29th Sept. 1837.

No. 6.—Mr. SIMPSON.

Hammersmith, Sept. 27th, 1837.

My dear Sir,—I perceive a Dr. Dickson has made a most disgusting personal attack upon you in the last Lancet, accusing you of demanding fees from medical men. Now it will ever be in my remembrance, that after being in a court of justice several hours as a witness in the trial of myself and Dr. Collier, you, although a perfect stranger to me, returned the guinea you received with the subpœna; and you were the only physician that did so. Another physician, whom I had been acquainted with, and called in, asked Mr. Wakley what he should do with the guina, who replied, "why give it to the losing party to be sure." I once sent you a patient, whom I told you could only afford half-a-fee, and you took nothing from him. With this experience of your character, I feel almost inclined to take up the cudgels. God help reviewers—for authors are of the irritable genus. But this man's attack is contemptible.

I am, dear Sir, your's sincerely,

W. SIMPSON.

No. 7.—Mr. LISTON.

13, Old Burlington Street,
Jan. 23d, 1838.

My dear Sir—I can bear testimony to your kindness to one medical man, Mr. Craig, from Paisley, and to your peremptory refusal of remuneration, when personally pressed upon you. You on that occasion stated that you never had taken, and never would take, a fee from any one in the profession.

Believe me your's faithfully,

Dr. James Johnson. W. J. LISTON.

No. 8,—Mr. EDMONDS.

Kineton, Dec. 7th, 1837.

Dear Sir,—Respecting the charge made against you by Dr. Dickson, as published in the Lancet, I am in possession of a letter with which you favoured me in the year 1826, the postscript to which I annex. In the Autumn of that year I suffered very severely, and for many weeks, with cardialgia, to relieve which I tried various means, but without avail. I then wrote you a statement of my case, which had your immediate attention, and I received a most kind and gentlemanly reply, pointing out a plan of treatment from which I derived almost immediate, and I am happy to say permanent benefit. I believe you have alluded to my case in your work on Morbid Sensibility of the Stomach. Having read the correspondence betwixt you and Dr. Dickson in the Lancet, I wrote to the Editor about three weeks since, stating that I was indebted to you for your advice, and copied the postscript of your letter, requesting the favour of its insertion in the Lancet, but as it has not yet appeared in that publication, I am induced to trouble you with this. Again I beg to thank you for your very kind and considerate attention to my case, for which I feel the more indebted being personally unknown to you. Allow me to subscribe myself,

My dear Sir, your's truly obliged,

J. EDMUNDS.

Postcript to your Letter.

P.S. I never took a fee from a brother practitioner in my life, and shall not now begin. Do not hesitate to command my advice whenever you think fit.

Dated 13th Dec. 1826.

No. 9.—Dr. CHRISTIE.

Dear Sir,—In reference to the ill-advised accusation of Dr. Dickson against you, I have to beg you to accept of my apologies for not having earlier tendered my humble testimony in favor of the *very universally acknowledged liberality of your practice in your profession*, and which I feel I certainly ought to have done before.

If Dr. D. will take the trouble of calling on me, I shall have much pleasure in *attempting* to express to him something like the feeling of gratitude I shall ever entertain towards you for your ready, unremitting, and most solicitous attendance upon, and attention to different branches of my family during periods of illness, and for the very valuable services you have PERFECTLY GRATUITOUSLY rendered to them.

Admirably liberal as the medical practitioners of this country undoubtedly are in affording every possible assistance in their power *gratuitously* one to another in case of illness, if any member of the profession in London were asked to name the practitioner who in this great metropolis was the *least mercenary* in the practice of his profession, the *most ready* to render *gratuitous* assistance to his professional brethren or to their families, and the *most liberal* towards non-professional persons, I firmly believe, if it were practicable to make the selection, Dr. JOHNSON, of Suffolk Place, would be the gentleman fixed upon.

I am persuaded that there is no practitioner here who is not thoroughly assured that you are liberal in your practice almost—if not altogether—to a failing, (though much to your honour and credit) even to those who are wholly unconnected with the profession, whenever you ascertain that such persons are at all in situations to require charitable aid.

Under such circumstances, so perfectly certain might you have been that Dr. D.'s charge against you of illiberality towards your professional brethren *must* have carried with it *its own utter refutation* to the minds and knowledge not only of every medical man who has the pleasure of knowing you, but almost of every one who ever heard of your name, that you will forgive my saying, I should have thought you never would have descended to offer a denial of the accusation.

Allow me to entreat now that you will accept of an expression of the *deepest* sense of gratitude on my part towards you for your very able and *wholly gratuitous* services to my family, and believe me to remain, with great respect,

Dear Sir, very truly,
—— CHRISTIE, M.D., et M.R.C.S.L.

37, Great James Street, Bedford Row,
22nd Jan. 1838.
To Dr. Johnson.

No. 10.—Dr. CLENDINNING.

My dear Sir,—I perceive in a letter of your's in the last Lancet a list of medical practitioners, including myself, as having been attended by you without remuneration, and considering myself in some sort summoned, by the publication of my name, to state the truth, the whole truth, and nothing but the truth, so far as known to me, touching your manner, of dealing with such of your medical brethren as ask your advice for themselves or members of their families, I have pleasure in acknowledging that I for one am indebted to you for repeated services of that kind. You have, on several occasions, given myself personally the advantage of your valuable advice and able assistance, and always gratuitously.

You also attended, now some seven years since, a married lady, a near relation of mine, during a tedious illness, which occurred while your patient was on a visit in my house, and for that attendance, unless I am strangely deceived, you declined all remuneration on the ground that the lady was, for the time at least, a member of my family. From those facts known to myself personally, and my general knowledge of your character, I conclude that your attendance on professional men and their immediate families has always been given on the usual liberal terms, and have no doubt that that conclusion will be confirmed by such of the practitioners named in your letter as may feel themselves, as I do, called on, and answer your appeal.

Believe me, my dear Sir, your sincerely obliged,
JOHN GLENDINNING.

16 Wimpole Street,
Jan. 29, 1838.

Dr. Johnson appeals to his brethren whether it is probable that he would break through a principle on which he has acted for thirty years and more, for the sake of getting two or three guineas from the wife of Mr. Gibbon. Since the charge that has been brought against him, he has learnt, not only from Mrs. Gibbon, but from the physician who attended Mr. Gibbon on his death-bed, that the regular fees were paid to the physician in question by the executors, and received for the following reasons, viz.—that Mr. Gibbon had retired, with competence, from the service and the profession—and that he and others in similar circumstances, did not consider themselves justifiable in absorbing the time and labours, *gratuitously*, of men supporting their families by the arduous practice of their profession. Such individuals prefer giving the ordinary remuneration to their attendants, rather than lie under an irksome obligation, or be obliged to make costly presents to the wives and daughters of their medical prescribers. Such line of argument is unanswerable, although Dr. Johnson can most solemnly and conscientiously aver that he never once acted upon it, or received a fee, directly or indirectly, from a brother officer of the profession. He has now done with the subject.

NEGATIVE VIRTUES: OR, A NEW METHOD OF RISING ON THE RUIN OF OUR NEIGHBOURS.

WE call the attention of all young candidates for Hospitals, Infirmaries, or Dispensaries, to the following *original,* and truly liberal address, published in the "CHELTENHAM JOURNAL," for Monday, March 5th, 1838.

"CHELTENHAM DISPENSARY.

To the Governors and Subscribers to the Cheltenham Dispensary and Casualty Hospital.

"Ladies and Gentlemen,—I know not what reason your Secretary will give for having *omitted* to advertise you that there have been for some time back two Vacancies in the Office of Physician to your Institution, the one arising out of the retirement of Mr. Conolly to Charlton, the other occasioned by the departure of Dr. Bernard to the West Indies. I beg to present myself as a candidate for one of these Appointments; but, instead of following the beaten course of detailing my good intentions,—should I succeed in obtaining your suffrages and support,—I shall tell you what I will NOT do:—

"I will not accept the honour of the name without myself doing the duties of Physician.

"I will in no case shew a lack of knowledge of the better resources of my art, by abstracting the life-blood of the poor—whose diseases, for the most part, spring from defective food and vitiated air.

"I will not see the patients mal-treated, mutilated, or MURDERED, without raising my voice against the authors of such barbarity.

"I will not consent to witness cruel operations, however dazzling, or calculated to answer the ends of *rising operators*, which may be prevented by judicious *internal* treatment.

"I will not allow professional or other etiquette to interfere with the welfare of the Patients entrusted to my care.

"I will not convert the medicines of the Charity to the use of my private patients.

"I will not sanction false Returns of the medicines used, or of the result of the general treatment or numbers of the Patients who have applied for assistance.

"I will not interfere with the duties of the Chaplain to the Institution, by discussing religious subjects, or praying *with* the sick, however much in my heart I may pray FOR them.

"I will not retain office after the expiration of one year from the date of my election, if I shall fail satisfactorily to demonstrate to the Subscribers that during that time I have increased the number of applicants for relief, and added to the usefulness and respectability of the Charity.

"I have only in conclusion to say, that I shall shortly submit to your attention Testimonials, from eminent individuals of the Army Hospital and General Staff, which will shew that, while in charge of extensive Military Hospitals, I *did not neglect* the duties intrusted to me. The evidence I shall adduce upon this head shall be such as the ingenuity of the base may by no possibility neutralize.

"I remain, with much respect,
"Ladies and Gentlemen,
"Your most obedient humble servant,
"S. DICKSON, M.D."

"15, Imperial Square, Cheltenham,
"March 2, 1838."

Well may Dr. Dickson say that he does not mean to follow "*the beaten course*" in these canvasses for public institutions! Most candidates address the governors by regretting the lamented death or resignations of their predecessors, &c. &c. Not so Dr. Dickson! He indirectly, but quite *unequivocally* accuses the Medical Officers of the Cheltenham Dispensary, of ignorance, negligence, peculation, robbery, mutilation—MURDER (!!) to the unfortunate sick who come under their care!! What must the public at large think of the Medical Profession, when a physician, boasting the special patronage of the heads of the army medical department, can issue an address—so atrocious a libel on his brethren, and which, we will aver, has never been paralleled in any age or nation! The author of it is evidently more ignorant of law than he is of physic. He thinks that *insinuations* are not libellous. If Dr. Conolly or Dr. Bernard, whose names are adduced in the paper, choose to prosecute, they are as sure of a verdict as they are of their own existence. No jury, between the Land's End and Caithness, would hesitate one instant, to pronounce the address a foul and calumnious libel, and award heavy damages.

Will the Governors and Subscribers of the Cheltenham Dispensary permit these foul aspersions to be thrown on their Medical Officers of the Institution, without meeting to repel them? We think they cannot sit quiescent under such insinuations. Dr. Dickson has now thrown off the mask, and undertaken the task of rendering the whole profession disgraceful in the eyes of the community at large! We wish him joy of his crusade.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

By-laws relating to Education, and to the Examination of Candidates for Letters Testimonial.

HALF-YEARLY EXAMINATIONS.

The President, with the Vice-President, and the Members of the Court of Censors and Assistants, or a majority of them assembled together, shall appoint, by a majority of voices, from among themselves, four or more Members, with the President, or Vice-President, to examine the registered pupils as to their proficiency in their studies every half-year, in the months of April and November, of which examinations due notice shall be given by summons, and by advertisement in the newspapers.

The pupils shall be divided into two classes, and each class shall be examined in the presence of the Members and Licentiates of the College, for such length of time, not being less than one hour, as the examiners may think proper, and the name of every pupil who shall have answered such examination to the satisfaction of the said Examiners, shall be enrolled by the Secretary in a book provided for that purpose, and the same shall be certified by the President to the Court of Censors, otherwise not.

The first or junior class shall be examined as to their knowledge of the elements of anatomy and physiology, the descriptive anatomy of the bones, muscles and joints, and of the cavities of the thorax and abdomen.

The second or senior class, shall be examined on the functions of digestion, absorption, circulation and respiration, the anatomy of the vascular and nervous system, and of the organs of sense.

EXAMINATION IN PHARMACY.

A Court of Examiners, consisting of seven members, shall be elected by ballot on the first Monday in February, in each year, to examine the registered pupils in chemistry, materia medica, and pharmacy. The Court shall elect from amongst themselves a chairman and deputy chairman; which chairman, or in his absence, the deputy chairman, with any four or more of such Court, shall be authorized and required to hold such examination.

This Court shall examine every registered pupil who shall require it, and who shall have been engaged in the study of his profession for three years at least, and shall have attended two courses of lectures on Chemistry, or one course of Lectures on general Chemistry, and one course on the practical details of Chemistry, one course of lectures on Materia Medica and Pharmacy, and one course of lectures on Medical Jurisprudence.

Such registered pupils shall be publicly examined on the general principles and practical details of chemistry; on materia medica and pharmacy, including the composition, qualities, and uses of remedies, and the botanical character of several plants, with the method of compounding and administering medicine; and also upon toxicology and medical jurisprudence: and if approved of and found qualified to compound and administer drugs and medicines, the Court shall certify the same to the President and Court of Censors; and if that Court thereafter shall grant to such pupil the Letters Testimonial of the Colege, such certificate of his qualification in pharmacy shall be delivered to him along with uch Letters Testimonial.

EXAMINATION IN MIDWIFERY.

A Court of Examiners, consisting of seven members, shall be elected by ballot on the first Monday in January, in each year, to examine such members, or licentiates, as become candidates for the license, diploma, or certificate to practise midwifery. This Court shall elect from amongst themselves a chairman and deputy chairman, which chairman, or in his absence, the deputy chairman, with four or more members of such Court, shall be authorized and required to hold such examination.

Candidates for the midwifery diploma, license, or certificate, shall have attended one course of lectures on Midwifery and Diseases of Women and Children, delivered by a Professor or Lecturer in some school of medicine or surgery recognized by the Court of Censors; he shall also have attended the practice of a lying-in hospital, recognized by the Midwifery Court, for a period of six months; or, the practice of a dispensary for lying in women and children, recognized by the Midwifery Court, and devoted to this branch of surgery alone; and also shall have conducted thirty labour cases at least.

Candidates for the midwifery diploma, license, or certificate, shall be publicly examined on the structure and functions of the organization of the female, the growth and peculiarities of the fœtus, the practice of midwifery, and the diseases of women and children; and if approved of, shall receive a license or diploma under the hands of the Examiners, certifying the same, to which the College seal shall be attached. Should a candidate be rejected, he shall not be again admitted to an examination until a period of three months shall have elapsed; and he shall then be obliged to produce satisfactory evidence of his having been engaged in the study of this branch of surgery subsequent to such rejection.

No member or Licentiate of the College is, or shall be, authorized or licensed to practise midwifery, or to give instructions therein, or to grant certificates of attendance on lectures thereon, unless he shall have been examined by the Midwifery Court of Examiners, and shall have received the diploma or license of the College to practice that branch of surgery; or unless he shall have been recognized as a midwifery practitioner previous to the 1st of May, 1831.

The Court shall also be anthorized and directed to examine in the same manner, and subject to the same regulations, every registered pupil who shall require it, and who shall have been engaged in the study of his profession for the period of three years, and shall have laid before the Court the documents and certificates required to be produced by candidates for the midwifery diploma; and if they consider that such registered pupil has pursued his studies in this department diligently and effectually, and that they believe, from his answering, that he has acquired a sufficient knowledge of this branch of surgery, they shall certify the same, under the hand of the chairman, to the President and Court of Censors, and if at any time thereafter he shall have the Letters Testimonial of the College granted to him, they shall also grant to him the usual midwifery diploma, upon his passing such examination as they shall deem necessary.

EXAMINATION FOR LETTERS TESTIMONIAL.

Every registered pupil or apprentice shall be admitted to an examination for Letters Testimonial, if he shall have proved and showed that his professional education has been in all respects conformable and agreeable to the provisions and enactments of the bye-laws and rules of the College, and shall have laid before the Court the following documents:

1. A receipt showing that he has lodged a sum of thirty guineas in the Bank of Ireland, to the credit of the President and for the use of the College.
2. A certificate signed by the President or Vice-President and two of the Court of Censors, that he has passed an examination as to his acquaintance with the Greek and Latin classics in the following books: the works of Sallust, the first six books of the Æneid of Virgil, the Satires and Epistles of Horace, the Greek Testament, the Dialogues of Lucian selected by Walker, and the first four books of Homer's Iliad; or a certificate that he has entered as a student into Trinity College, or into any British University granting degrees in the arts, where he has already undergone a classical examination.
3. If he be an apprentice, his indenture of apprenticeship regularly registered, with a certificate signed by the Member or Licentiate to whom he has been indented, that he has fully and perfectly served such apprenticeship for the full term of five years.
4. If he be not an apprentice, certificates showing that he has been engaged in the study of his profession in some hospital or school of medicine or surgery for five years

and that he has attended lectures or hospitals for three winter seasons, at least, in Dublin, Glasgow, London, or Edinghburgh.

5. A certificate, signed by the President or Vice-President, that he has passed the two half-yearly examinations required by the bye-laws.

6. A certificate, signed by the chairman or deputy chairman of the Pharmacy Court, that he has passed the examination in chemistry, materia medica, and pharmacy.

7. A certificate, signed by the chairman or deputy chairman of the Midwifery Court, that he has passed the examination in midwifery and on the diseases of women and children.

8. Certificates of attendance on a surgical hospital containing fifty patients, for a period of three years at least.

9. Certificates of attendance on three courses of lectures on Anatomy and Physiology, three courses of lectures on the Theory and Practice of Surgery, and of the performance of three courses of Dissections, accompanied by Demonstrations: also certificates of attendance on two courses of lectures on Chemistry, or one course of lectures on General, and one on Practical, Chemistry; one course of lectures on Materia Medica; one course of lectures on the Practice of Medicine; one course of lectures on Midwifery; and one course of lectures on Medical Jurisprudence.

10. A thesis, essay, or dissertation in Latin or English, on any of the following subjects: Anatomy, Physiology, Surgery, the Practice of Medicine, Chemistry, Materia Medica, Midwifery, or Medical Jurisprudence; or in place of such dissertation, a series of cases collected in the hospital in which the candidate has attended, illustrated by comments or observations.*

LIQUOR LYTTÆ.

The Acetum Cantharidis of the Pharmacopœia, is a comparitively inert preparation. The LIQUOR LYTTÆ, as prepared by Mr. Snowdon, in the Haymarket, is one of the most elegant and useful rubefacients, counter-irritants, or vesicatories, which we have ever employed. A single painting or varnishing of the part, by means of a camel's-hair pencil, produces a rubefacient effect, more lasting than a mustard-poultice—a couple of applications with two or three minutes' interval, will counter-irritate effectually—and three applications, with similar intervals, will, in a great majority of cases, vesicate the part in five or six hours. A piece of linen wetted with the LIQUOR LYTTÆ, and laid on the skin for five or six minutes, is sure to blister, in little more than half the time required for a common blister-plaister. The advantages of the Liquor Lyttæ are numerous. To angular parts, as about the neck, it is difficult to apply or keep on a blister. With children, also, there is much trouble in keeping the emp. lyttæ on the parts. The *application* of the *Liquor Lyttæ* gives no pain, and its subsequent blistering effects cannot be resisted by the impatient patient. The odour is the same as that of the College preparation, but the strength is infinitely greater.

SUBSTITUTE FOR CINCHONA.

By a Letter which we have received from Mr. MEASE of Philadelphia, we learn that the General or President of Peru and Bolivia has prohibited the exportation of Cinchona from that country for five years to come. Europeans, therefore, will be obliged to search about for a substitute. Mr. Mease has sent us a packet of the EUPATORIUM PERFOLIATUM, more commonly known by the trivial name of "BONE-SET," whose tonic powers, he observes, have been tested for half-a-century, and whose efficacy in the cure of intermittents is acknowledged. The specimen may be examined in Suffolk Place, by any gentleman desirious of seeing it. We have also sent a part of it, with Mr. Mease's letter, to the Medico-Botanical Society

⁂ Mr. Mease's paper, on the Stings of Venomous Insects, in our next.

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* For the remaining elucidations and explanations of these laws and regulations, we have not room in our Journal, being much crowded and overcharged this quarter,—J. J

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Medico-Chirurgical Review (American Reprint)
N.S. Vo.28 (Oct.1,1837-March 31,1838)
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